

THE COCKROACH GENUS *CALOLAMPRA* OF
AUSTRALIA WITH DESCRIPTIONS OF
NEW SPECIES (BLABERIDAE)

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Princis (1963) listed 23 species of *Calolampira*, thirteen of them from Australia and the others from Africa, India, Burma, China, Sarawak and the Philippines. *Calolampira similansis* from the Himalayas was described by Baijal and Kapoor (1966). Recently, the African species were placed in a new genus *Pseudocalolampira* (Roth and Princis, 1971) and *Calolampira laevis* (Brunner v. W.) from Burma and China was assigned to the new genus *Calolampirodes* (Bey-Bienko, 1969). Of the other species, "*Calolampira*" *brunneri* (Brancsik) is a mislabeled *Derocalymma cruralis*, and "*C.*" *punctosa* (Walker) belongs to the genus *Laxta* (Princis, 1967, p. 708). *Calolampira truncata* (Brunner v. W.) was listed by Princis (1967, p. 627) under the genus *Rhabdoblatta*. In this paper we describe 26 species of Australian *Calolampira*, of which 12 are new. Five species, *C. gracilis* (Brunner v. W.), *C. atomifera* (Walker), *C. notabilis* (Walker), *C. signatura* (Walker), and *C. propria* (Walker) have been considered to be synonyms of *C. irrorata* (Fabr.) (Princis, 1963). Of these, *propria* is a synonym of *C. atomifera* (Walker); the other 4, we believe, are valid species.

The genitalia of *Calolampira* consist of 3 major phallomeres (Fig. 1). An L2d (dorsal sclerite of the second left phallomere) is apparently absent. The prepuce is covered with microtrichia, curves upward and is fused to the L2vm. When well developed the prepuce is cup-shaped and with L2vm as a handle looks like a ladle; rarely is the prepuce unmodified (e.g. Fig. 82). L1 (first sclerite of left phallomere) and R2 (hooked sclerite of the right phallomere) is well developed and lacks a subapical incision. The hypandrium (subgenital plate) is symmetrical and bears 2 small equal sized styli. All photographs of genitalia, supra-anal plate, and hypandrium are from specimens treated with 10% KOH, dehydrated, and mounted in Permount. Supra-anal plates were mounted dorsal surface upward and subgenital plates ventral side uppermost. One or

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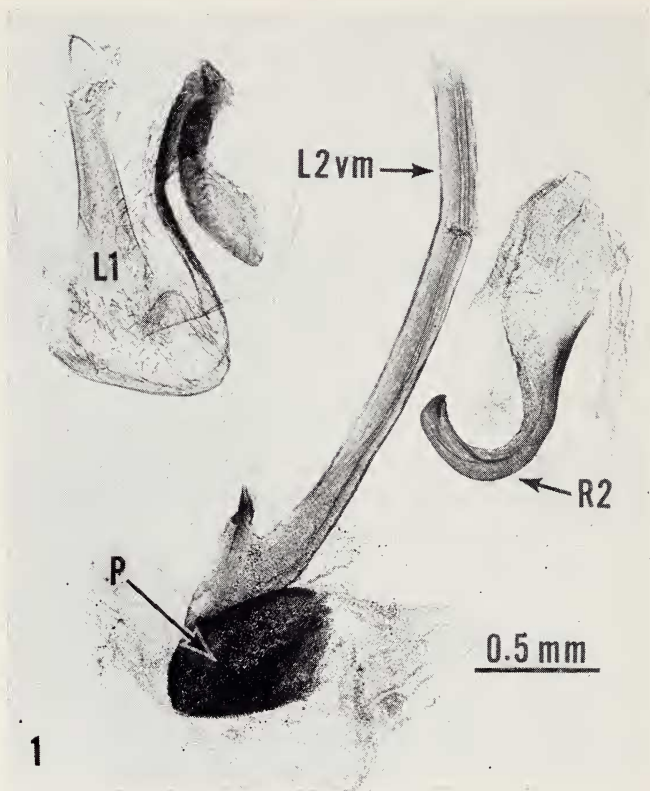


Figure 1. *Calolampra confusa*. Male genitalia, dorsal view (115 MCZ), A. (without exact locality). L1 = first sclerite of left phallomere; L2vm = ventromedial sclerite of second sclerite of left phallomere; P = prepuce; R2 = hooked sclerite of right phallomere.

both cerci or styli may be missing from the figures, but it is the shape of the hind margins of the supra-anal and subgenital plates which are of some diagnostic value. Because the supra-anal and subgenital plates were mounted on slides, their flattened shapes may differ from that seen in dried pinned specimens. For example, Rehn and Hebard (1927, p. 239, and plate XVIII, figs. 8, 9) described the supra-anal plate of *Calolampra aliena* as “. . . transverse, subrectangulate, distal margin weakly arcuate, . . .” and the subgenital plate (p. 240) as “. . . slightly asymmetrical distal margin mesad arcuato-emarginate . . .”. The shapes of these structures (from the same specimen) when cleared and mounted on a slide do not agree with the above description (Figs. 87, 88).

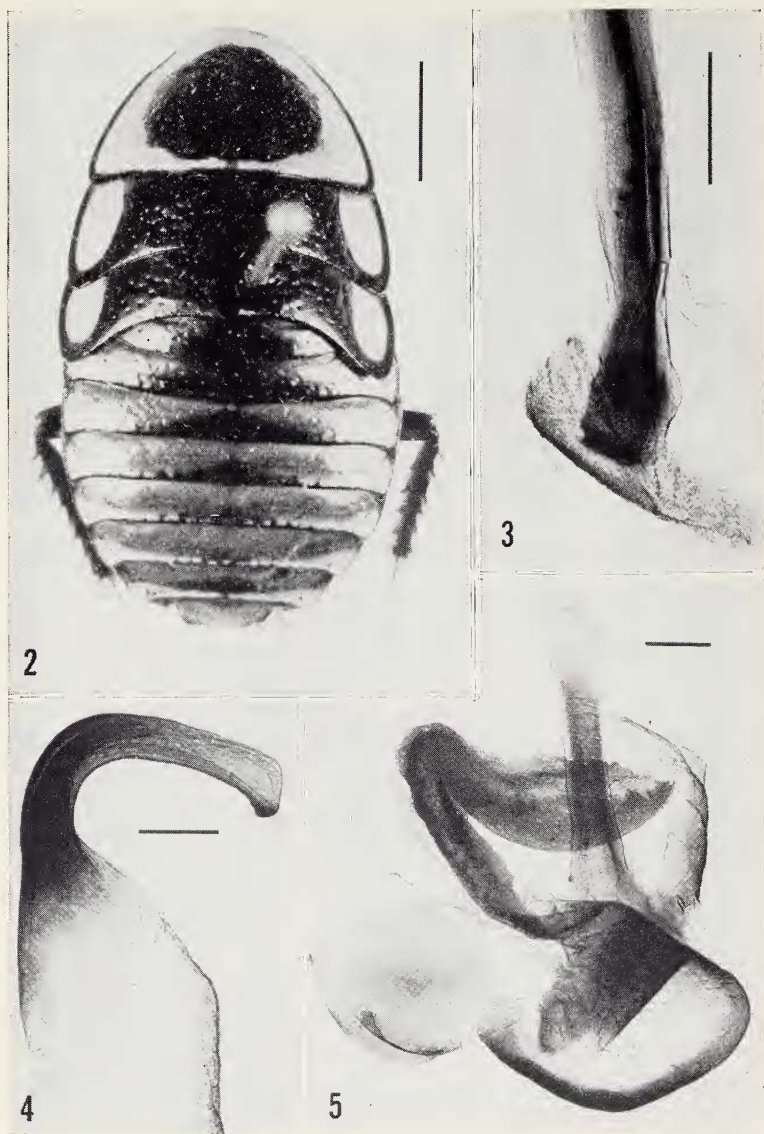
The first tergite of some male *Calolampra* may have elevations or ridges which appear to be tergal glands (Figs. 15, 199) probably involved in sexual behavior (Roth, 1969). However, some males have slight ridges which do not appear to be glandular; regardless of the nature of these modifications, the pattern formed by them has some diagnostic value (Figs. 260-279).

The following abbreviations are used for localities, and source (museums) of the specimens examined: A = Australia; (BMNH) = British Museum (Natural History), London; (L) = Lund Museum, Zoological Institution, Lund, Sweden; (MCZ) = Museum of Comparative Zoology, Harvard University, Cambridge, Mass., U.S.A.; N.S.W. = New South Wales, Australia; N.T. = Northern Territory, Australia; Q = Queensland, Australia; (QM) = Queensland Museum, Brisbane, Australia; S.A. = South Australia; (SAM) = South Australian Museum, Adelaide, South Australia; (SM) = Stockholm Museum, Stockholm, Sweden; (USNM) = United States National Museum, Washington, D.C.; V. = Victoria, Australia; (VM) = Vienna Natural History Museum, Vienna, Austria; W.A. = Western Australia; (WAM) = Western Australian Museum, Perth, Western Australia. The number preceding some of the museum abbreviations refers to the number assigned the specimen and its corresponding genitalia (♂) on a slide, which are deposited in their respective museums. The male genitalia of the Lund material were mounted between small cover slips and are attached to the pinned specimens.

1. *C. elegans* sp. n.

(Figs. 2-5)

♂ (Fig. 2). Apterous, nitid. Head piceous, nitid, with transverse yellow band between eyes on vertex. Antennae with their basal 10-15 segments nitid, piceous, remainder fuscous. Pro-, meso-, and



Figures 2-5. *Calolampra elegans*. ♂ (269 L, in SM), holotype, Peak Downs, Q. 2. Adult. 3-5. Genitalia. Scale: Fig. 2 = 5 mm; Figs. 3-5 = 0.25 mm.

metanotum bicolored, with evenly scattered impressed punctures. Pronotum with piceous disk on reddish-yellow ground, bordered all around with piceous. Meso- and metanotum piceous, with yellow maculae bordered with piceous and imitating vestigial tegmina and wings. First tergite unmodified piceous, the others mostly brown with yellowish flecks laterally on each side. Supra-anal plate sordid-yellowish, transverse, its posterior margin slightly emarginate mesally. Cerci brownish, hardly surpassing the posterior margin of supra-anal plate. Venter of abdomen piceous laterally, brownish mesally. Hypandrium transverse, symmetrical, provided with 2 short styles; posterior margin slightly emarginate mesally. Legs piceous to castaneous, only middle and posterior coxae margined posteriorly with yellow. Lower anterior margin of front femur armed with 1 distal, and 4 additional spines at the proximal half; lower posterior margin of same bearing 1 distal and 1 additional spine. Lower anterior margin of middle femur with 1 distal and 3 additional spines; lower anterior margin of hind femur with 1 distal and 3 or 4 additional spines. Lower posterior margin of mid femur with 1 distal spine only; same margin of hind femur unarmed. Caudal basitarsus decidedly longer than the succeeding tarsal joints together, with small apical pulvillus. Tarsal claws symmetrical, arolia very small. Genitalia as figured (Figs. 3-5); prepuce poorly developed (Fig. 3). Length of body 23 mm; length of pronotum 7 mm; width of pronotum 10 mm.

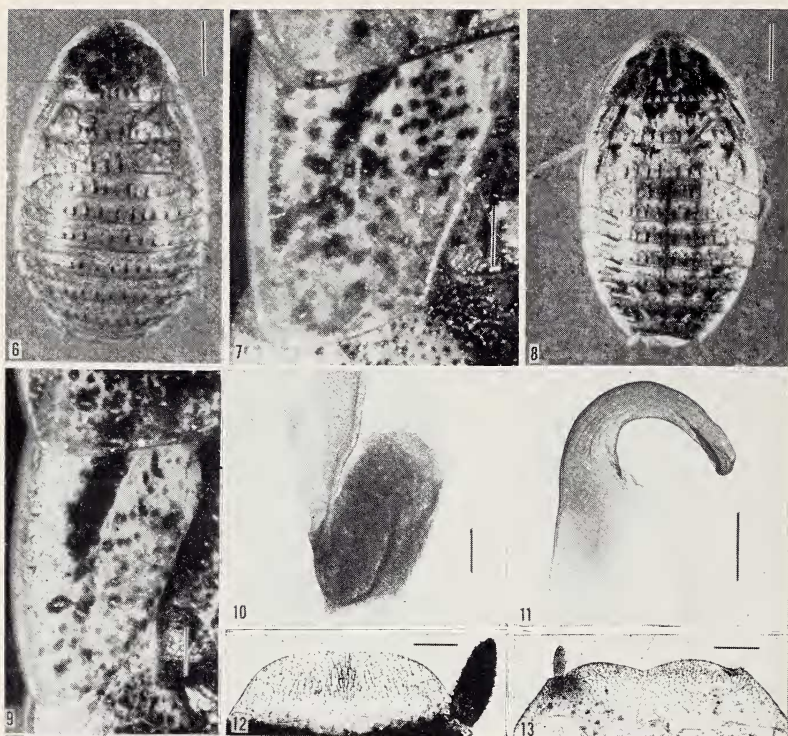
This new species differs from all known species of *Calolampra* by the absence of tegmina and wings in the male sex.

♀. Unknown, but it is probably apterous.

Material examined: ♂ (269 L in SM) (holotype) Peak Downs, Q. The type specimen is unique.

2. *C. darlingtoni* sp. n.
(Figs. 6-13)

♂ (Fig. 8). Pronotum triangular, widest at posterior margin; disk speckled with black and with small reddish dots placed among the black speckles; lateral margins yellow with small reddish dots and larger dark ones; the narrow yellowish hind margin with a series of black longitudinal striae. Head pale yellowish with a blackish patch in interocular-ocellar area. Antennae proximally yellowish, distally dull ferruginous. Tegmina reduced to lateral pads hardly exceeding hind margin of mesonotum; outer as well as sutural margin convex; sutural half speckled with dark brown (Fig. 9). Wings absent. Mesonotum, metanotum, and tergites speckled with black



Figures 6-13. *Calolampra darlingtoni*. 6. ♀ (136 MCZ), paratype. Alagate, Mt. Lofty Range, S. A. 7. Tegmen of ♀ shown in figure 6. 8. ♂ (140 MCZ), holotype, The Creel, Mt. Kosciusko, N.S.W. 9. Tegmen of ♂ shown in figure 8. 10-11. Genitalia. 12-13. Supra-anal and subgenital plates. Scale: Figs. 6, 8 = 3 mm; Figs. 7, 9, 12-13 = 0.5 mm; Figs. 10-11 = 0.2 mm.

and dotted with reddish in the same fashion as pronotum; longitudinal striae present on their hind margins. First tergite unmodified. Weakly emarginate supra-anal plate (Fig. 12) and cerci dull yellowish. Sternites yellowish with reddish dots and speckles; black stigmatic spots decided. Hypandrium dull yellowish with mesally incised hind margin (Fig. 13). Genitalia shown in figures 10-11. Legs yellow with deep brown spines; tarsal claws symmetrical, well developed arolia present. Length of body 17 mm; length of pronotum 4.5 mm; width of pronotum 7.2 mm; length of tegmina 3 mm.

♀ (Fig. 6). Somewhat larger than male. Head pale brownish with a wide black band between eyes, extending decidedly beyond interocular space. Tegmina obliquely truncate (Fig. 7). Supra-anal plate and cerci speckled with dark. Subgenital plate almost entirely black except the reddish middle part. Very small arolia present. Length of body 18.5-20 mm; length of pronotum 4.5 mm; width of pronotum 7.5-8 mm; length of tegmina 3-4.5 mm.

Material examined: ♂ (140 MCZ) (holotype, herewith designated). The Creel, Mt. Kosciusko (3000 ft.), N.S.W. 14, 15. XII.1931, Darlington leg; ♀ (136 MCZ) (paratype), Alagate, Mt. Lofty Range, S.A., 29.XI.1931, Darlington leg.; ♀ (SAM) S.A. (without exact locality).

The species is named in honor of Dr. Philip Darlington, who collected the holotype.

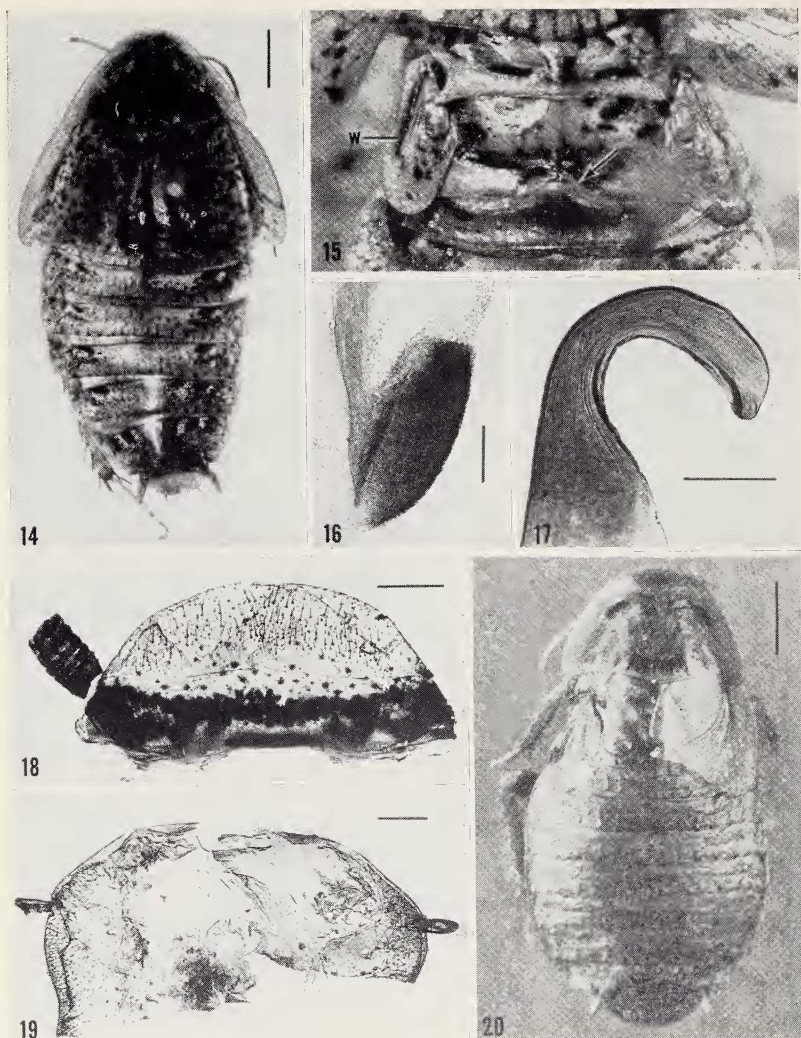
3. *C. truncata* (Brunner v. W.)

(Figs. 14-20)

Epilampra truncata Brunner v. W., Nouv. Syst. Bl., 1865, p. 178, ♀.

♂ (Fig. 14). Tegmina truncate, reduced, and extending only to about the hind margin of second tergite; sutural half of tegmen covered with large irregular shaped dark dots (Fig. 14); wings reduced to rounded "leathery" lappets which reach only to hind margin of first tergite (Fig. 15), and are completely hidden under the tegmina. Abdomen pale, speckled with black, each tergite and sternite with a pair of large sublateral dark blots, anteriorly. Tergite 1 modified (Fig. 15). Supra-anal (Fig. 18) and subgenital (Fig. 19) plates rounded. Male genitalia as figured (Figs. 16-17). Legs pale brown, arolia well developed. Length of body 16 mm; length of pronotum 4.6 mm; width of pronotum 7.2 mm; length of anterior margin of tegmen 5.6 mm; length of wing 3 mm.

♀ (Fig. 20). Head black, vertex brown. Pronotum testaceous



Figures 14-20. *Calolampra truncata*. 14-19. ♂ (85 MCZ), Salisbury Ct., N.S.W. 14. Male. 15. Modified (arrow) first abdominal tergite and wings (w). 16-17. Male genitalia. 18-19. Supra-anal plate and hypandrium. 20. ♀ (2VM), holotype, Sydney, N.S.W. Scale: Fig. 14 = 2 mm; Figs. 16-17 = 0.2 mm; Figs. 18-19 = 0.5 mm. Fig. 20 = 3 mm.

with disc fuscous; whole surface of pronotum furnished with small impressed punctures and among them larger fuscous flecks. Tegmina obliquely truncate, with sutural margin decidedly shorter than anterior one; veins distinct, wings reduced to lateral pads hidden under tegmina. Abdomen brown speckled with black. Tergites provided on their hind margins with longitudinal striae, distance between them about 1 mm. Supra-anal plate rounded. Legs brown. Length of body 19 mm; length of pronotum 5.5 mm; width of pronotum 8 mm; length of anterior margin of tegmina 5.3 mm; length of sutural margin of tegmina 3.8 mm.

Material examined: ♀ (2 VM) (holotype), Sydney, N.S.W.; ♂ (85 MCZ), Salisbury Ct., N.S.W., ex Wheeler Collection.

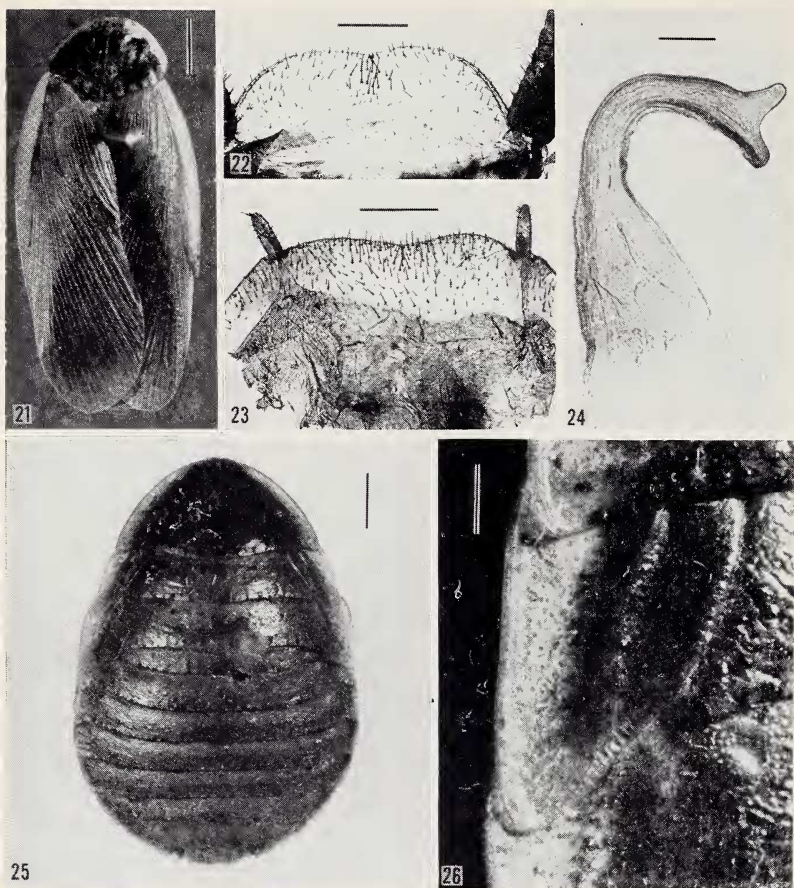
4. *C. ignota* sp. n.

(Figs. 21-26, 278)

Syn: *C. fraserensis* Princis (nec Tepper 1893), Lund Univ. Årsskr., N. F. Avd. 2, Vol. 50:13 (also: Kungl. Fysiogr. Sällsk. i Lund, Handl., N. F. Vol. 65:13, 1954, p. 31, ♂ ♀.)

♂ (Fig. 21). Head lacking (probably reddish). Pronotum elliptical with yellowish lateral margins which are connected anteriorly and bear scattered blackish dots; disk with symmetrically arranged black and reddish-brown speckles and streaks; hind margin provided with black longitudinal striae. Tegmina somewhat exceeding apex of abdomen, brown with whitish costal margins and black humeral streaks; the usual dark speckling is lacking and tegmina appear solidly colored throughout (the normally covered part of the right tegmen is somewhat darker). Wings as long as tegmina, brown with deep brown veins. First tergite as figured (Fig. 278). Hind margins of supra-anal plate (Fig. 22) and hypandrium (Fig. 23) weakly emarginate mesally. Venter and legs yellowish. R2 of genitalia apically bifurcate (Fig. 24) (prepuce and L1 accidentally lost). Arolia lacking. Length of body 18 mm; length of pronotum 4.8 mm; width of pronotum 6 mm; length of tegmina 18 mm.

♀ (Fig. 25). Head yellowish, with reddish-brown band between eyes; face regularly arcuate with occiput (no angulation). Pronotum transverse, but less than 2 times broader than long; disk provided with several impressed punctures (not numerous fine dots); hind margin of pronotum convex, at least in its middle part; latero-caudal angles not produced backwards; dark longitudinal raised striae on hind margin of pronotum. Tegmina reduced to lateral lappets, their apices subacuminate (Fig. 26); edging of outer margin brown.



Figures 21-26. *Calolampira ignota*. 21-24. ♂ (1 WAM), holotype, Bulong, W. A. 21. Adult. 22-23. Supra-anal plate and hypandrium. 24. R2 of genitalia. 25. ♀ (179 L), paratype, Norseman, W. A. 26. Tegmen of female shown in figure 25. Scale: Figs. 21, 25 = 3 mm; Figs. 22-23 = 0.5 mm; Fig. 24 = 0.1 mm; Fig. 26 = 1 mm.

Wings absent. Dorsum of abdomen with dark maculation on pale ground, underside reddish, laterally somewhat darker; the dark striae on hind margins of tergites usually reduced to raised acuminate tubercles, especially on the distal tergites. Legs yellowish; lower posterior margin of hind femora completely unarmed. Length of body 17.5-23 mm; length of pronotum 4.5-6 mm; width of pronotum 8.5-10 mm; length of tegmina 3.6-5 mm.

Material examined: ♂ (1 WAM) (holotype, herewith designated), Bulong, W. A. 1931. This specimen was recorded by Princis as *C. fraserensis*; ♀ (179 L) (paratype), Norseman, W. A. 1940; ♀ (SAM), Camp 23, 1894, Horn Explor. Exped.; ♀ (SAM) Murray Bridge, S. A., 12.XI.1909 (killed by ants), Tepper leg; ♀ (SAM) Adelaide, S. A. 8.VI.1895.

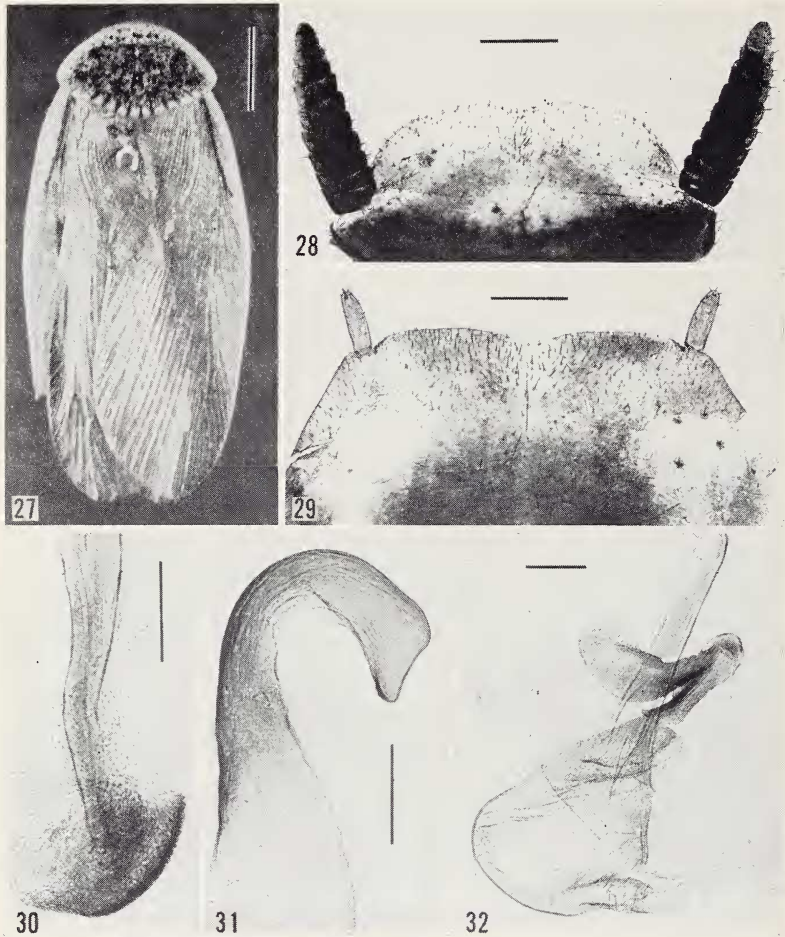
5. *C. paula* (Tepper)

(Figs. 27-41, 261)

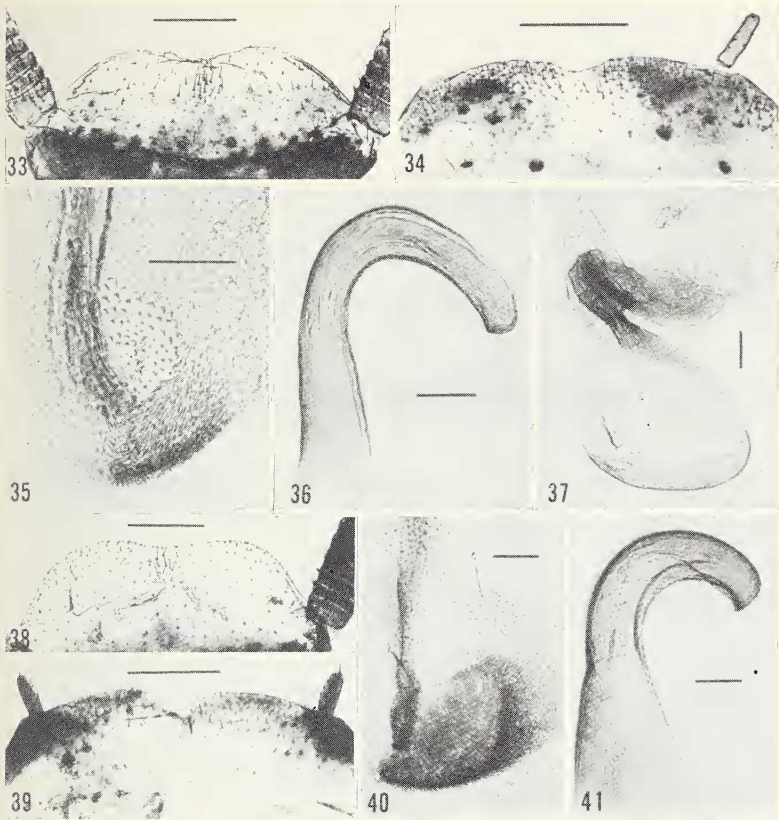
Epilampra paula Tepper, Trans. R. Soc. S. Austral. XVII, 1893, p. 60, ♂ only.

♂ (Fig. 27). Pronotum elliptical, whitish to yellowish with scattered black or reddish impressed dots; disk of pronotum with black symmetrical figure; hind margin with a row of dark rather long longitudinal striae. Tegmina with yellowish costal field and black humeral stripe, which beyond middle is divided into separate oblique streaks; remainder is either nearly uniform brownish or speckled with dark. Wings as long as tegmina, darkened and with brownish veins. First tergite as figured (Fig. 261). Hind margins of supra-anal plate (Figs. 28, 33, 38) and hypandrium (Figs. 29, 34, 39) mesally emarginate. Genitalia as shown in figures 30-32, 35-37, 40, 41; R2 and prepuce somewhat variable (cf. Figs. 31, 36, 41). Legs yellowish; lower posterior margin of hind femora unarmed. Arolia present. Length of body 13-14 mm; length of pronotum 3.2-3.6 mm; greatest width of pronotum 4.6-6 mm; length of tegmina 13-15 mm.

♀. Clouded dull brown. Pronotum provided with numerous fine, impressed dots. Dorsal thoracic segments with black irregular markings and black striae on their hind margins. Abdominal tergites likewise with raised longitudinal striae on hind margins; these striae are relatively long, equaling about $\frac{1}{3}$ to $\frac{1}{2}$ of tergal length. Tegmina reduced to lateral lappets, their apices subacuminate. Wings absent. Length of body 17-18 mm; length of pronotum 4.5 mm; width of pronotum 6.8-7 mm; length of tegmina 3 mm.



Figures 27-32. *Calolampra paula*. 27-32. ♂ (2 SAM), lectotype, Ardrossan, S. A. 27. Adult. 28-29. Supra-anal and subgenital plates. 30-32. Genitalia (Fig. 32 is a ventral view). Scale: Fig. 27 = 3 mm; Figs. 28-29 = 0.5 mm; Figs. 30-32 = 0.2 mm.



Figures 33-41. *Calolampra paula*. Male supra-anal plates, subgenital plates, and genitalia. 33-37. (21 SAM), Rudy Hole, N. T. 38-41. (20 SAM), Cunnamulla, Q. Scale: Figs. 33-34, 38-39 = 0.5 mm; Figs. 35-37, 40-41 = 0.1 mm.

Material examined: ♂ (2 SAM), (lectotype, herewith designated), Ardrossan, S. A., II.1879, J. G. O. Tepper leg.; ♂ (20 SAM), Cunnamulla, Q., H. Hardcastle leg.; ♂ (21 SAM), Rudy Hole, N. T., 1894, Horn Explor. Exped.; 2 ♀♀ (SAM) Rudy Hole, N.T., 1894, Horn Explor. Exped.; nymph (SAM), Parachilna Hale, Flinders Range, S. A.; nymph (SAM) Port Lincoln, S. A., Lea leg.;; 2 nymphs (SAM), Rudy Hole, N. T., 1894, Horn Explor. Exped.; nymph (SAM), Everard Rgs., S. A. to Warberton Rgs., W. A., A. Brumley leg.; nymph (SAM), near Fraser's Hul, III.1950, C. G. Gross leg.

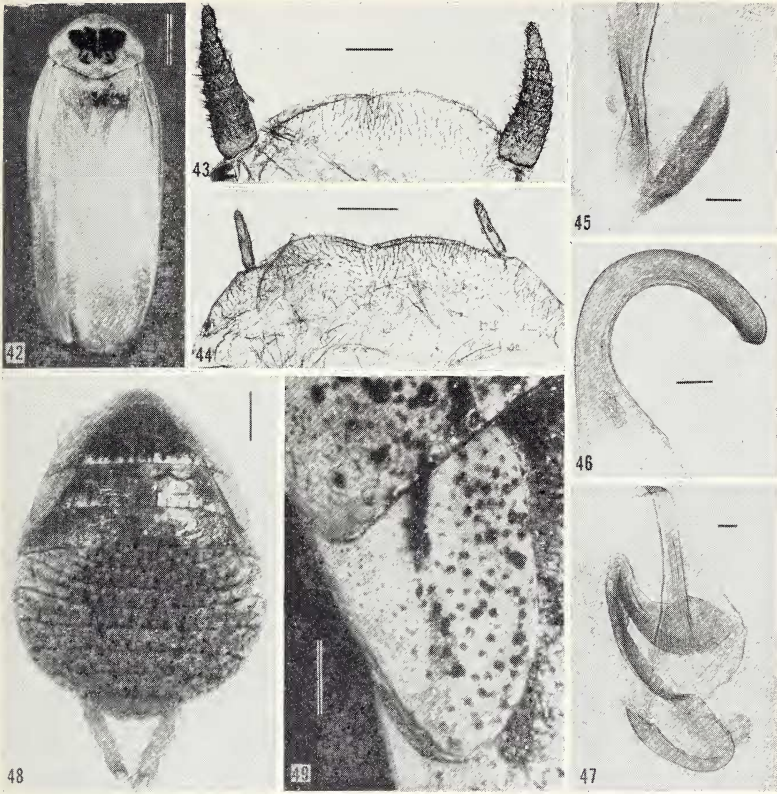
6. *C. candidula* Shaw

(Figs. 42-49, 266)

Calolampira candidula Shaw, Proc. Linn. Soc. N. S. Wales 50, 1925, p. 175, Fig. 3, ♂.

♂ (Fig. 42). Head yellowish with a transverse row of four black maculae between eyes. Antennae with the basal one-fourth pale yellowish and remainder ferruginous. Pronotum elliptical, yellowish with a symmetrical black macula on disk and with hind margin black lined. Tegmina considerably exceeding the apex of abdomen, diaphanous with whitish veins which bear scattered brownish dots; black humeral stripe present. Wings as long as tegmina, pellucid with whitish veins. Abdomen above and below yellow. First tergite as figured (Fig. 266). Hind margin of supra-anal plate very slightly emarginate mesally (Fig. 43). Hind margin of hypandrium distinctly emarginate (Fig. 44). Genitalia shown in figures 45-47. Legs yellowish. Well developed arolia present. Length of body 22-23 mm; length of pronotum 5.3 mm; width of pronotum 7.5 mm; length of tegmina 23.5-28 mm.

♀ (Fig. 48). Head yellowish with a black, medially interrupted, transverse band between eyes. Pronotum with disk thickly speckled with black and reddish; lateral margins yellow with small reddish dots and darker dots among the smaller ones; the narrow yellow hind margin provided with a series of black longitudinal striae. Tegmina lobiform, apex rounded (Fig. 49) reaching $\frac{1}{4}$ of their length beyond hind margin of mesonotum; yellow with scattered reddish and dark brown dots which are concentrated in the sutural half. Mesonotum, metanotum and tergites speckled with black and reddish; hind margins provided with series of black longitudinal striae. Cerci and supra-anal plate yellow, the latter dotted with small reddish and several larger dark brown dots among the smaller ones. Sternites



Figures 42-49. *Calolampra candidula*. 42-46. ♂ (1 QM), holotype, Bellevue, Q. 42. Adult. 43-44. Supra-anal plate and hypandrium. 45-47. Genitalia. 48-49. ♀ (116 MCZ), Cairns, Q. 48. Female. 49. Tegmen of female shown in figure 48. Scale: Fig. 42 = 4 mm; Figs. 43-44 = 0.5 mm; Figs. 45-47 = 0.1 mm; Fig. 48 = 3 mm; Fig. 49 = 1 mm.

yellowish brown, subgenital plate deep brown. Legs yellowish with brown spines; tarsal claws symmetrical; very small arolia present. Length of body 21 mm; length of pronotum 7 mm; width of pronotum 12 mm; length of tegmina 5 mm.

Distribution: Aramac, Q. and northeast corner of S. A. (Shaw, 1925, p. 175).

Material examined: ♂ (1 QM) (holotype), Bellevue, Q., 1917, E. C. Hurtridge leg.; ♀ (116 MCZ), Cairns, Q., Wheeler leg.

7. *C. aspera* (Tepper)

(Figs. 50-68, 262)

Epilampra aspera Tepper, Trans. R. Soc. S. Australia XVII, 1893, p. 62
♂ ♀.

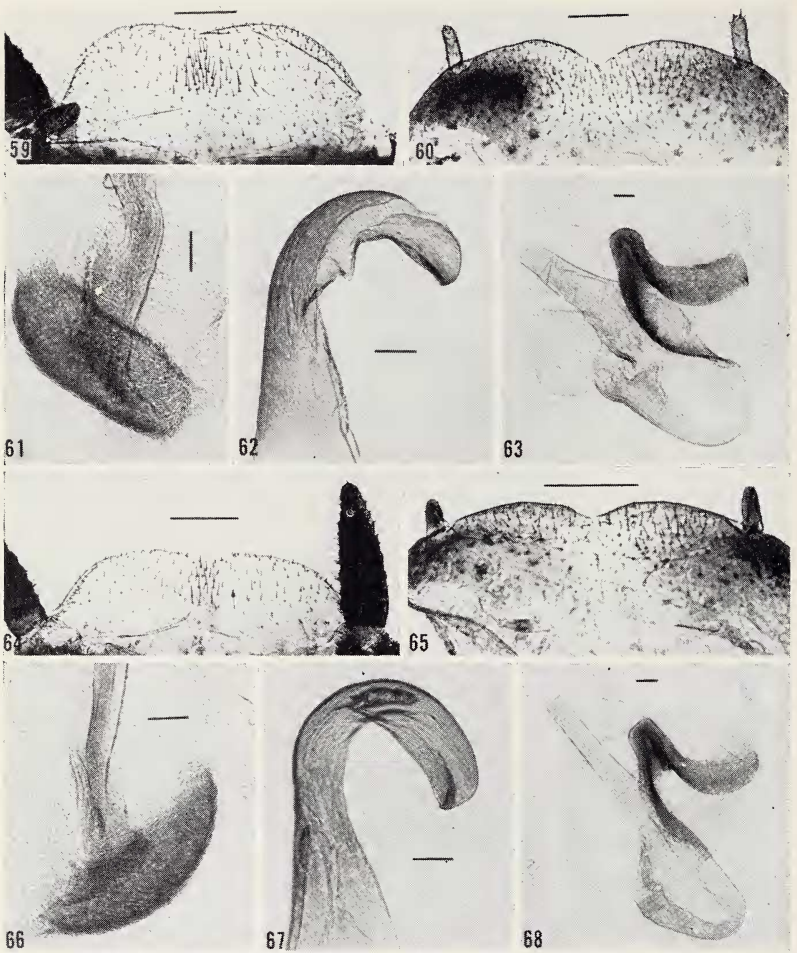
♂ (Fig. 50). Head with a dark transverse interocular band which is continued on both sides towards clypeus. Pronotum almost elliptical, but with the greatest width beyond middle; whitish to yellowish with scattered brown impressed punctures; disk with dark symmetrical figure; the dark longitudinal striae of hind margin very short, mostly present on the edge of margin. Tegmina whitish or yellowish more or less distinctly speckled with brown (this speckling becoming indistinct in distal half of tegmina as well as in the normally covered portion of the right tegmen); radius deep brown beyond middle breaking up into separate oblique lines. Wings as long as tegmina, pellucid with whitish to yellowish veins. First tergite as figured (Fig. 262). Supra-anal plate (Figs. 51, 57, 59, 64) as well as hypandrium (Figs. 52, 58, 60, 65) mesally emarginate. Genitalia shown in figures 53-56, 61-63, 66-68. Legs yellowish; lower posterior margin of hind femora unarmed. Well developed arolia present. Length of body 17-20.5 mm; length of pronotum 4.5-5 mm; width of pronotum 6-7 mm; length of tegmina 19-20 mm.

♀. Pale ochraceous to dull brown. Head with a dark band between eyes. Pronotum provided with numerous, fine, impressed dots. Tergites asperous or rugose, distally with short raised tubercles which are generally provided with recurved sharp points. Tegmina lobi-form, subacuminate. Wings absent. Length of body 19.5-25 mm; length of pronotum 4.5-5.2 mm; width of pronotum 7.5-8.5 mm; length of tegmina 3.8-4.5 mm.

Material examined: ♂ (3 SAM) (lectotype, herewith designated), Western Plains, S. A., 29.XI.1888, A. G. Percy leg.; ♂ (10 SAM), Clayton Crossing, S. A., 13.XI.1955 (at light), E. T.



Figures 50-58. *Calolampra aspera*. 50-54. ♂ (3 SAM), lectotype, Western Plains, S. A. 50. Adult. 51-52. Supra-anal and subgenital plates. 53-54. Genitalia. 55-58. ♂ (11 SAM), Kingoonya, S. A. 55-56. Genitalia. 57-58. Supra-anal and subgenital plates. Scale: Fig. 50 = 5 mm; Figs. 51-52, 57-58 = 0.5 mm; Figs. 53-56 = 0.1 mm.



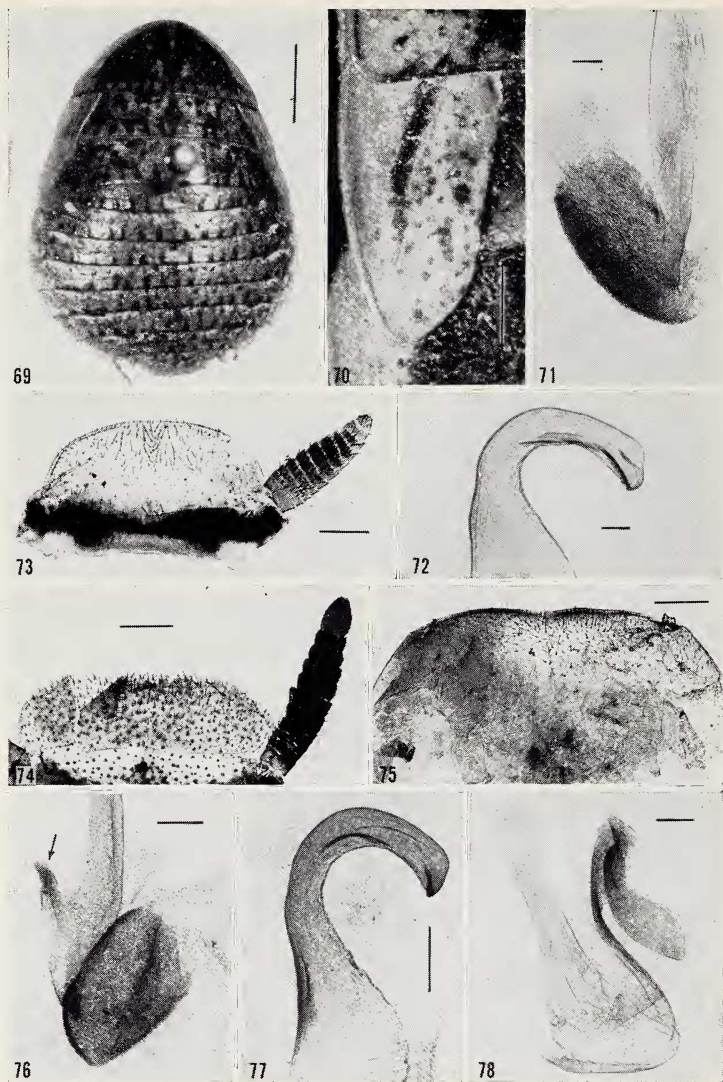
Figures 59-68. *Calolampra aspera*. Male supra-anal and subgenital plates, and genitalia. 59-63. (10 SAM), Clayton Crossing, S. A. (R2 in figure 62 damaged). 64-68. (12 SAM), Muloorina Stn., S. A. Scale: Figs. 59-60, 64-65 = 0.5 mm; Figs. 61-63, 66-68 = 0.1 mm.

Giles leg.; ♂ (11 SAM), Kingoonya, S. A., R. Harvey leg.; ♂ (12-19 SAM), Muloorina Stn., S. A., 18.II.1956 (at light), G. F. Gross leg.; 2 ♂ ♂ (SAM) Muloorina Stn., S. A., 17.II.1956 (at light), G. F. Gross leg.; 20 ♂ ♂ (SAM) Muloorina Stn., S. A., 18.II.1956 (at light), G. F. Gross leg.; ♂ (SAM) Ooldea, S. A., Tepper leg.; ♂ and ♀ (SAM) Hermannsburg (McDonnell Ranges), Capt. S. A. White; ♂ (SAM), north western S. A., H. Basedow leg.; (SAM) Herrgott Springs, S. A., 1.XII.1898, Blackburn leg.; ♀ (28 SAM) (paralectotype, herewith designated), Algebuckina, S. A., 23.V.1887, Driffield leg.; this specimen was labeled by Tepper in 1915 as type but he neither published nor designated it in the description in 1893; ♀ (SAM), Lake Callabonna, S. A., A. Zietz leg.; ♀ (SAM), Painta Swamp, Burt Plains, 1894, Horn Explor. Exped.; ♀ and nymph (SAM) Oodnadatta to Todmorton, Capt. S. A. White leg.; ♀ (SAM) Eyre Pen., S. A., XII.1954, G. F. Gross leg.; nymph (SAM), Callington, S. A. 19.I.1886, Tepper leg.; Tepper labeled this specimen as the ♀ type of *C. paula* in 1915, but his action is not valid; 3 nymphs (SAM), Ardrossan, S. A., 26.27.XI.1885, Tepper leg.; nymph (SAM), Oodnadatta, S. A., 1894, Horn Explor. Exped.; nymph (SAM), north western S. A., H. Basedow leg.; nymph (SAM), Eyre Pen., S. A., 4.IX.1889, W. Graham leg.; 2 nymphs (SAM), Sedan, S. A., 23.VIII.1888, Rothe leg.; 2 nymphs (SAM), Ooldea, S. A., R. T. Maurice leg.; nymph (SAM), Ellery's Creek (McDonnell Ranges), Capt. S. A. White leg.; nymph (SAM), Hermannsburg (McDonnell Ranges), Capt. S. A. White; nymph (SAM), Finke Gorge, S. A., 1894, Horn Explor. Exped.

8. *C. subgracilis* sp. n.

(Figs. 69-73, 275)

♂. Pronotum triangular with lateral angles broadly rounded and with the greatest width at about the middle; lateral margins yellowish dotted with black; disk very thickly speckled with black. Tegmina well developed, reaching distinctly beyond apex of abdomen, covered with dark speckles, distally becoming larger and paler; the normally covered part of the right tegmen solidly colored. Wings as long as tegmina, brownish with deep brown veins. Abdomen above deep brown, below yellowish. First tergite as figured (Fig. 275). Supra-anal plate with posterior margin entire (Fig. 73); hypandrium damaged. Genitalia shown in figures 71, 72. Legs yellowish with brown spines; lower posterior margin of hind femora



Figures 69-78. *Calolampra subgracilis* and *C. confusa*. 69-73. *C. subgracilis*. 69-70. ♀ (150 MCZ), paratype, A. (without exact locality). 69. Adult. 70. Tegmen of female shown in figure 69. 71-73. ♂ (86 MCZ), holotype, Melbourne, V. 71-72. Genitalia. 73. Supra-anal plate. 74-78. *Calolampra confusa*. ♂ (115 MCZ), holotype, A. (without exact locality). 74-75. Supra-anal plate and hypandrium. 76-78. Genitalia (arrow indicates lateral spur near base of L2vm in figure 76). Scale: Fig. 69 = 5 mm; Fig. 70 = 1 mm; Figs. 71-72 = 0.1 mm; Figs. 73-75 = 0.5 mm; Figs. 76-78 = 0.2 mm.

unarmed; well developed arolia present. Length of body 16 mm; length of pronotum 4.2 mm; width of pronotum 6 mm; length of tegmina 17 mm.

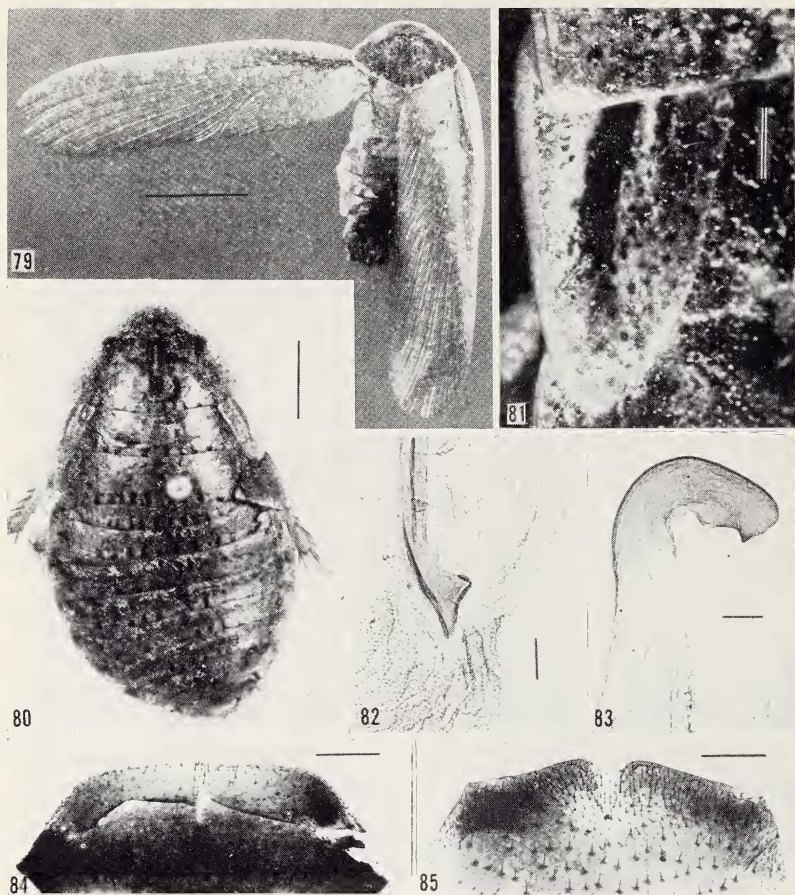
♀ (Fig. 69). Head brownish testaceous, with a blackish transverse band between eyes; face continuously passing into occiput (no angulation present). Antennae proximally brownish becoming distally blackish. Pronotum edged with brown, feebly so in front, but strongly laterally; front margin regularly arcuate with undifferentiated lateral margins; disk of pronotum with scattered large impressed punctures and so thickly speckled with black that the brownish ground color almost disappears; hind margin convex in dorsal aspect and provided with the usual black striae which are rather short and indistinct. Tegmina lateral, lobiform, reaching beyond hind margin of mesonotum (Fig. 70), their edging of outer margin brown. Dorsum of abdomen thickly speckled with black. Lower posterior margin of anterior femora armed only with 1 distal spine; same margin of posterior femora completely unarmed. Length of body 17-19.5 mm; length of pronotum 5-5.2 mm; width of pronotum 7.5-8.3 mm; length of tegmina 3.5-4.2 mm.

Material examined: ♂ (86 MCZ) (holotype herewith designated), Melbourne, V., H. Edwards leg.; 3 ♀♀ (145, 147, and 149 MCZ) (paratypes), same data as above; ♀ (146 MCZ) (paratype), A. (without exact locality); ♀ (150 MCZ) (paratype), A. (without exact locality), H. Edwards leg.; ♀ (SAM), Ardrossan, S. A., 26.XI.1885. Tepper leg.; Tepper designated this specimen as the type of Walker's *notabilis* but his action is invalid.

9. *C. confusa* sp. n.

(Figs. 1, 74-78, 269)

♂. Pronotum nearly elliptical, with lateral margins sparsely dotted with dark; disk symmetrically speckled with black. Antennae damaged. Tegmina distinctly reaching beyond apex of abdomen, speckled with black, distally becoming brown; the normally covered part of the right tegmen solidly colored. Wings as long as tegmina, infumate. Abdomen above brown, below yellowish. First tergite as figured (Fig. 269). Posterior margin of supra-anal plate entire, truncate except for lateral corners (Fig. 74). Hypandrium very shallowly emarginate mesally (Fig. 75). Genitalia shown in figures 1, 76-78; L2vm with a lateral spur near its base (Fig. 76), a character not found in any other *Calolampra* examined. The spur is reminiscent of the structure we called L2d in the male of *Pseudo-*



Figures 79-85. *Calolampra fenestrata*. 79. ♂ (298 L in SM), holotype, Mt. Tambourine, Q. 80. ♀ (178 L), paratype, Cabramatta, N.S.W. 81. Tegmen of ♀ shown in figure 80. 82-85. Genitalia, supra-anal plate, and hypandrium of ♂ shown in figure 79. Scale: Fig. 79 = 6 mm; Fig. 80 = 4 mm; Fig. 81 = 1 mm; Figs. 82-83 = 0.1 mm; Figs. 84-85 = 0.5 mm.

calolampra pardalina (Roth and Princis, 1971, Figs. 9, 12, 15). Legs dull yellowish with pale brown spines; lower posterior margin of hind femora unarmed. Tarsal claws symmetrical; well developed arolia present. Length of body 20 mm; length of pronotum 5 mm; width of pronotum 7 mm; length of tegmina 20 mm.

♀. Unknown.

Material examined: ♂ (115 MCZ) (holotype, herewith designated), A. (without exact locality).

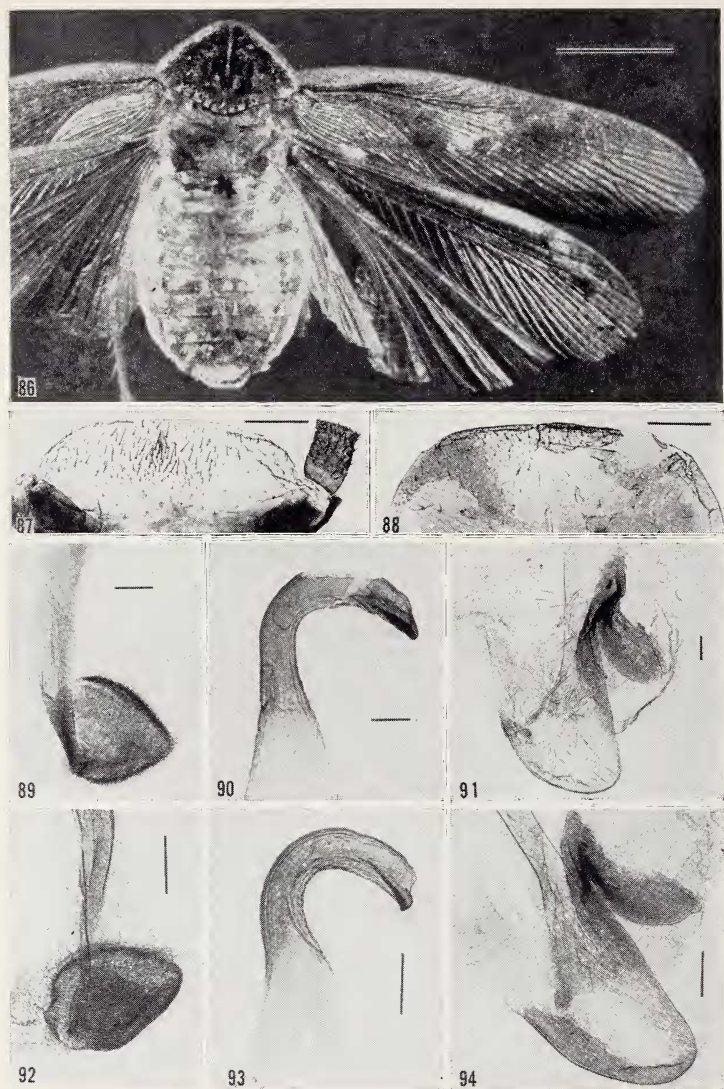
10. *C. fenestrata* sp. n.

(Figs. 79-85)

♂ (Fig. 79). Head yellowish with brown interocular-ocellar area; the former area somewhat paler. Antennae pale brownish. Pronotum elliptical, encircled all around by narrow yellow margin; thickly dotted and speckled with black; hind margin provided with black longitudinal striae which are generally marked only by color and do not extend to the narrow outer edging. Tegmina reaching somewhat beyond apex of abdomen, brown with translucent fenestra, which however are lacking on the normally solidly (castaneous) colored part of the right tegmen. Wings as long as tegmina brownish with deep-brown veins and whitish cross-veinlets. Abdomen above dark brown, below yellow. Hind margin of supra-anal plate entire (Fig. 84). Hind margin of hypandrium notched mesally (Fig. 85). L2vm without a modified preputial attachment (Fig. 82); R2 shown in figure 83. Legs yellowish, lower posterior margin of hind femora usually armed with 3 or 4 spines. Length of body 20 (?) mm; length of pronotum 4.5 mm; width of pronotum 6 mm; length of tegmina 20 mm.

♀ (Fig. 80). Head yellowish, with blackish interocular-ocellar area; another blackish patch reaches to clypeus. Pronotum, thickly speckled with black; several impressed punctures present; hind margin convex in dorsal aspect; the dark longitudinal striae of hind margin distinctly marked by darker color and only weakly raised. Tegmina lobiform (Fig. 81), edging of outer margins brown. Dorsum of abdomen thickly speckled with black on pale ground color; venter almost throughout solidly black; only several reddish patches present. Legs as in male. Length of body 23 mm; length of pronotum 5.8 mm; width of pronotum 9 mm; length of tegmina 4 mm.

Material examined: ♂ (298 L in SM) (holotype, herewith designated), Mt. Tambourine, Q., Mjöberg leg.; ♀ (178 L) (paratype). Cabramatta, N. S. W., 19.XI.1961, M. Nikitin leg.



Figures 86-94. *Calolampra signatura*. 86-91. ♂ (61 BMNH), holotype, St. Helena. 86. Adult. 87-88. Supra-anal plate and hypandrium. 89-91. Genitalia (R2 in figure 90, is damaged). 92-94. ♂ (67 MCZ). Genitalia of holotype of *Calolampra aliena*, Haiti. Scale: Fig. 86 = 5 mm; Figs. 87-88 = 0.5 mm; Figs. 89-91 = 0.1 mm; Figs. 92-94 = 0.2 mm.

11. *C. signatura* (Walker)

(Figs. 86-94, 277)

Panchlora signatura Walker, Cat. Derm. Salt. Brit. Mus. 5, 1871, Suppl. Blatt. p. 13, ♂ (St. Helena).

Calolampra aliena Rehn and Hebard, Bull. Amer. Mus. nat. Hist. 54, 1927, p. 238, Pl. XVIII, figs. 5, 7-9, ♂.

Calolampra signatura (Walker), Ann. Mus. Roy. Afr. Centr, in —8°, Zool., 181, 1970, p. 170, ♂.

♂ (Fig. 86). Interocular-ocellar space with a solid dark area which is almost divided in two parts anteriorly by a triangular emargination. Antenna with basal joint yellow and the remainder fuscous. Pronotum thickly speckled and dotted with blackish and reddish; edge of lateral margins uniform yellow; hind margin with dark, radially arranged striae. Tegmina markedly extending beyond the apex of abdomen, covered by numerous dark small dots; costal margin yellow; humeral streak broad and black, beyond middle breaking into separate maculations; the normally covered part of the right tegmen solidly brownish colored. Wings infumate, as long as tegmina, with deep brown veins. Dorsum of abdomen pale, banded transversely with brown; first tergite as figured (Fig. 277). Hind margins of supra-anal plate (Fig. 87) and hypandrium (Fig. 88) not emarginate. Venter yellowish with brown stigmata. Genitalia shown in figures 89-94. Legs yellowish with brown spines; lower posterior margin of hind femora unarmed; arolia normally developed. Length of body 16 mm; length of pronotum 5 mm; width of pronotum 6.6 mm; length of tegmina 21.7 mm.

♀. Unknown.

Material investigated: ♂ (61 BMNH) (holotype of *signatura*), St. Helena; ♂ (67 MCZ) (holotype of *aliena*), Haiti, P. R. Uhler leg.

This species is probably an introduction from Australia to St. Helena and Haiti. St. Helena was an important station for slave ships as well as ships coming from Australia. *C. signatura* was possibly introduced to St. Helena with Australian plants (there are many introduced Australian plants in St. Helena). *C. aliena* is possibly a secondary introduction by slave ships from St. Helena to Haiti (Princis, 1970).

12. *C. atra* (Tepper)

(Figs. 95-109, 279)

Epilampra atra Tepper, Trans. R. Soc. S. Austral. XVII, 1893, p. 65, only ♀ (not ♂ ♀ as given).

Epilampra propria Tepper (nec Walker 1868), Ibid. XVII, 1893, p. 64, only ♂ from Mannum (nec ♀ = *Calolampra tepperi* Kirby).

♂. Head with broad black band in interocular-ocellar area. Antennae pale brownish. Pronotum elliptical in outline, with lateral margins pale yellowish dotted with brown; disk thickly speckled with black sometimes almost uniform black. Tegmina dull brown with somewhat darker dots which are sometimes obscured; coastal area yellowish; humeral streak black, broad and short. Wings as long as tegmina, smoky brown with brown veins. First tergite as figured (Fig. 279). Abdomen above deep brown, below yellowish. Supra-anal plate, cerci, and hypandrium yellowish. Hind margin of supra-anal plate almost straight (Fig. 95) or slightly emarginate (Figs. 100, 104). Hind margin of hypandrium weakly (Fig. 96) or distinctly (Figs. 101, 105) mesally emarginate. Genitalia shown in figures 97-99, 102, 103, 106, 107; R2 with apex beaklike (Figs. 98, 103, 107). Legs yellow with brown spines; lower posterior margin of hind femora usually unarmed (distal spine is always lacking). Length of body 19-23 mm; length of pronotum 4.5-6 mm; width of pronotum 7-8 mm; length of tegmina 20.5-23 mm.

♀ (Fig. 109). Shining blackish. Pronotum with lateral margins pale yellowish dotted with brown; latero-caudal angles not produced backwards. Tegmina lobiform bicolored, the outer part yellow, the inner solidly dark; extending to about the hind margin of mesonotum (Fig. 108). Length of body 23-27 mm; length of pronotum 6 mm; width of pronotum 10-12 mm; length of tegmina 3-5 mm.

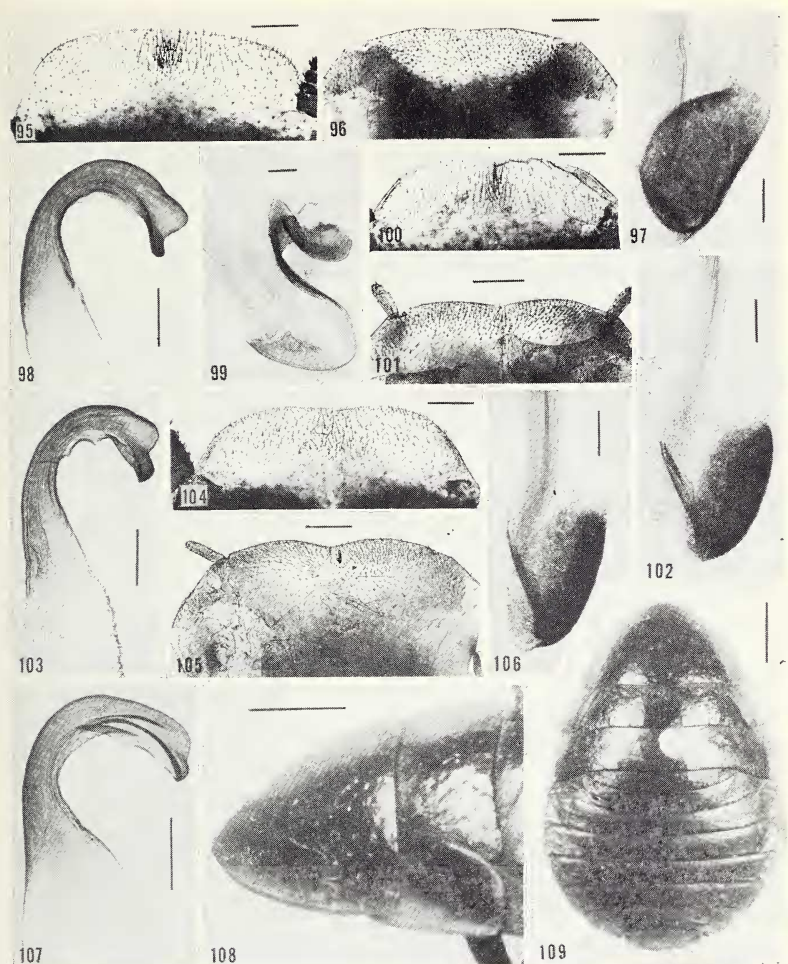
Material investigated: ♀ (1 SAM) (lectotype, herewith designated), Sedan, S. A., XII.1885, F. Rothe leg.; Tepper erroneously labeled this specimen as male; ♀ (SAM) (paralectotype), same data as above; ♂ (22 SAM), Mannum, S. A., 24.V.1890, R. Schroeder leg.; this specimen was labeled by Shaw as the type of Kirby's *tepperi* but the action is invalid; ♂ (29 SAM), Adelaide, S. A.; N. B. Tindale leg.; ♂ (30 SAM), Lucindale, S. A., Feuerheerdt leg.

13. *C. gracilis* (Brunner v. W.)

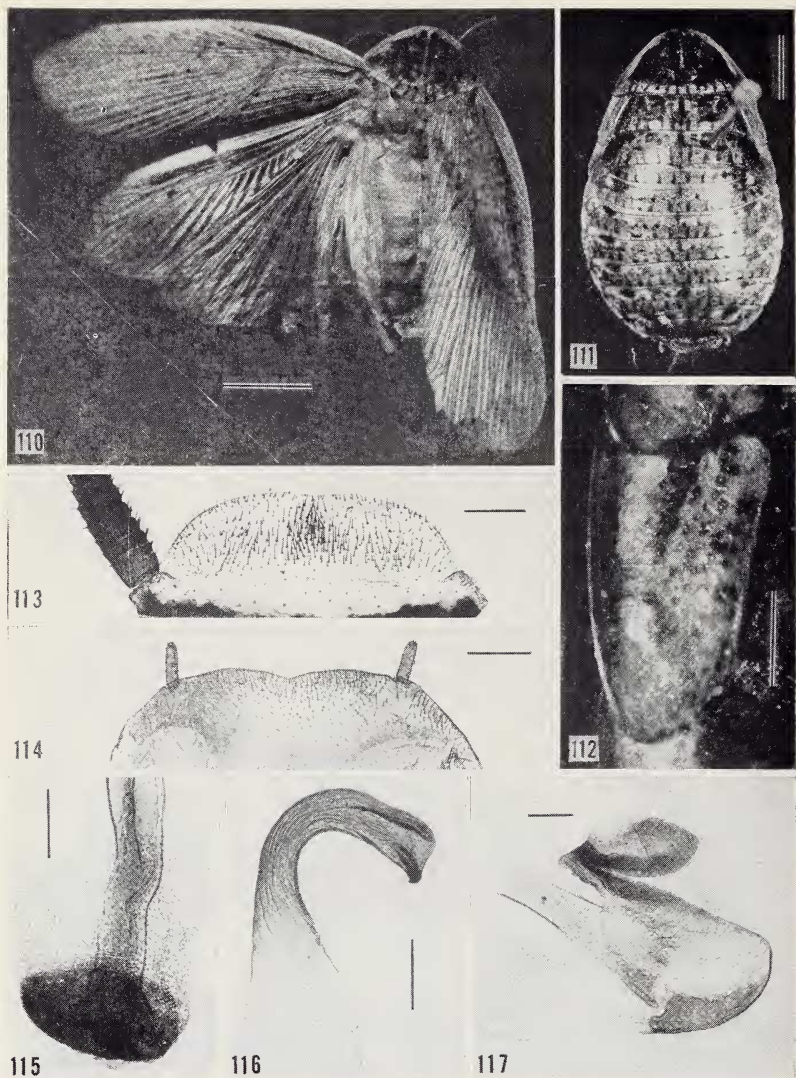
(Figs. 110-136, 273)

Epilampra gracilis Brunner v. W., Nouv. Syst. Blatt. 1865, p. 170, ♂ ♀, Fig. 20 (♀).

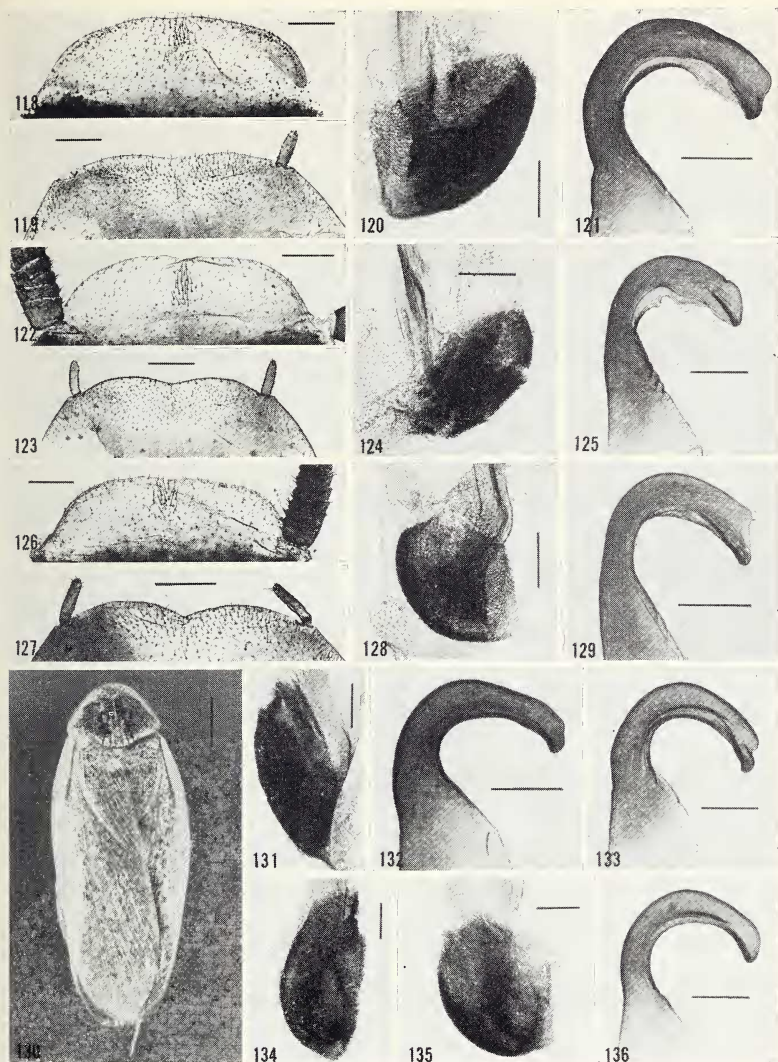
♂ (Figs. 110, 130). Head yellow;; interocular-ocellar area with a transverse dark brown band which is interrupted in the latter area. Pronotum in dorsal aspect triangular, with the greatest width at its middle, thickly speckled and dotted with dark brown; hind margin bearing a series of dark brown longitudinal striae. Tegmina somewhat exceeding apex of abdomen, with scattered brown maculation



Figures 95-109. *Calolampra atra*. 95-99. ♂ (22 SAM), Mannum, S. A. 95-96. Supra-anal plate and hypandrium. 97-99. Genitalia. 100-103. ♂ (29 SAM), Adelaide, S. A. 100-101. Supra-anal plate and hypandrium. 102-103. Genitalia. 104-107 ♂ (30 SAM), Lucindale. 104-105. Supra-anal plate and hypandrium. 106-107. Genitalia. 108-109. ♀ (1 SAM), lectotype, Sedan, S. A. 108. Lateral view of pronotum, mesonotum, and tegmen. 109. Dorsal view. Scale: Figs. 95-96, 100-101, 104-105 = 0.5 mm; Figs. 97-99, 102-103, 106-107 = 0.2 mm; Fig. 108 = 3 mm; Fig. 109 = 4 mm.



Figures 110-117. *Calolampra gracilis*. 110. ♂ (1 VM), lectotype, Adelaide, S. A. 111-112. ♀ (139 MCZ), Blue Mts., Hartley Vale, N.S.W. 111. Dorsal view. 112. Tegmen. 113-117. Supra-anal plate, hypandrium, and genitalia of lectotype shown in figure 110. Scale: Fig. 110 = 5 mm; Fig. 111 = 4 mm; Fig. 112 = 1 mm; Figs. 113-114 = 0.5 mm; Figs. 115-117 = 0.2 mm.



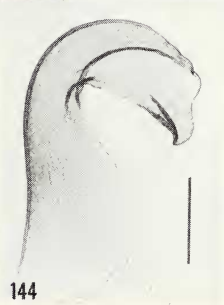
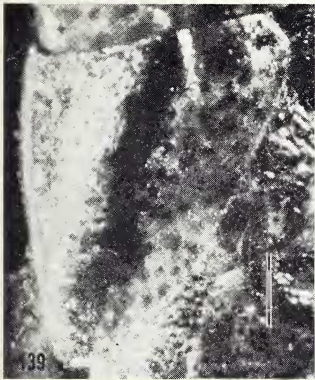
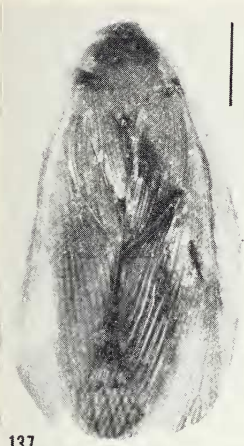
Figures 118-136. *Calolampra gracilis*. 118-121. ♂ (25 SAM), Mt. Bryan E., S. A. 118-119. Supra-anal plate and hypandrium. 120-121. Genitalia. 122-125. ♂ (26 SAM), Norwood, S. A. 122-123. Supra-anal plate and hypandrium. 124-125. Genitalia. 126-129. ♂ (27 SAM), Yardea, S. A. 126-127. Supra-anal plate and hypandrium. 128-129. Genitalia. 130. ♂ (261 L), Cabramatta, N.S.W. 131-132. Genitalia of specimen shown in figure 130. 133-134. ♂ (260 L), same locality as 261 L. Genitalia. 135-136. ♂ (264 L), same locality as 261 L. Genitalia. Scale: Figs. 118-119, 122-123, 126-127 = 0.5 mm; Figs. 120-121, 124-125, 128-129, 131-136 = 0.2 mm; Fig. 130 = 4 mm.

on yellowish ground; broad dark brown humeral stripe present; the normally covered part of right tegmen solidly brown colored. Wings as long as tegmina, infumated and with brown veins. Dorsum of abdomen yellowish brown, distally becoming darker; first tergite as figured (Fig. 273). Cerci and supra-anal plate yellowish, the latter with hind margin very weakly emarginate (Figs. 113, 118, 122, 126). Venter of abdomen yellow with dark brown stigmatic maculae. Hypandrium distinctly (Figs. 114, 123, 127) or weakly (Fig. 119) emarginate. Genitalia shown in figures 115-117, 120-121, 124-125, 128-129, 131-136. Legs yellow with brown spines; lower posterior margin of front femora usually unarmed, the distal spine excepted, only occasionally one additional spine present; same margin of hind femora totally unarmed. Length of body 19-22 mm; length of pronotum 5-6 mm; width of pronotum 7-7.5 mm; length of tegmina 21 mm.

♀ (Fig. 111). Head generally as in male, but sometimes in dark individuals a blackish additional macula between interocellar area and clypeus present; face passing into occiput without angulation. Pronotum at most twice as broad as long, thickly speckled and dotted with dark brown (in dark individuals with blackish); disk with scattered impressed punctures; hind margin bearing a series of dark brown to blackish longitudinal striae; middle part of the hind margin weakly convex; lateral margins not differentiated, but regularly arcuate with anterior margin; edging of lateral margins in dorsal aspect not lined brown inside; latero-caudal angles slightly produced backwards. Tegmina reduced to lateral lappets (Fig. 112); edging of their outer margins dark brown (even in dark individuals not black). Dorsum of abdomen thickly speckled and dotted with dark brown to blackish on yellowish ground. Supra-anal plate yellowish, only weakly dotted with dark brown. Venter of abdomen dark brown to blackish with several reddish maculations. Legs yellowish brown with dark brown spines; lower posterior margin of front femora and same margin of posterior femora as in male. Length of body 18-21 mm; length of pronotum 5-5.5 mm; width of pronotum 8.5-8.8 mm; length of tegmina 3-4 mm.

Material examined: ♂ (1 VM) (lectotype, herewith designated),

Figures 137-145. *Calolampra marginalis*. 137. ♂ (967 L), Rottnest Isl., W. A. 138. ♀ (180 L), Jandakot, W. A. 139. Tegmen of female shown in figure 138. 140-142. ♂ (45 BMNH), Yanchep (32 miles north of Perth), W. A. Genitalia (prepuce in figure 140 torn away from L2vm). 143-145. Genitalia of ♂ shown in figure 137. Scale: Fig. 137 = 4 mm; Fig. 138 = 3 mm; Fig. 139 = 1 mm; Figs. 140-145 = 0.2 mm.



Adelaide, S. A.; 5 ♂♂ (260-264 L), Cabramatta, N.S.W., M. Nikitin leg.; ♂ (114 MCZ), A. (without exact locality); ♂ (59 MCZ), A. (without exact locality); ♂ (25 SAM), Mt. Bryan E., S. A., 13.XII.1886, Best leg.; ♂ (26 SAM), Norwood, S. A., 7.XII.1885 (at light), Tepper leg.; ♂ (27 SAM), Yardea, S. A., 16.XII.1952, G. F. Gross leg.; ♀ (L), Cabramatta, N.S.W., 12.XII.1960 (on trunk of *Casuarina glauca*), M. Nikitin leg.; ♀ (139 MCZ), Blue Mts., Hartley Vale, N.S.W., 30.I.1932, Darlington leg.

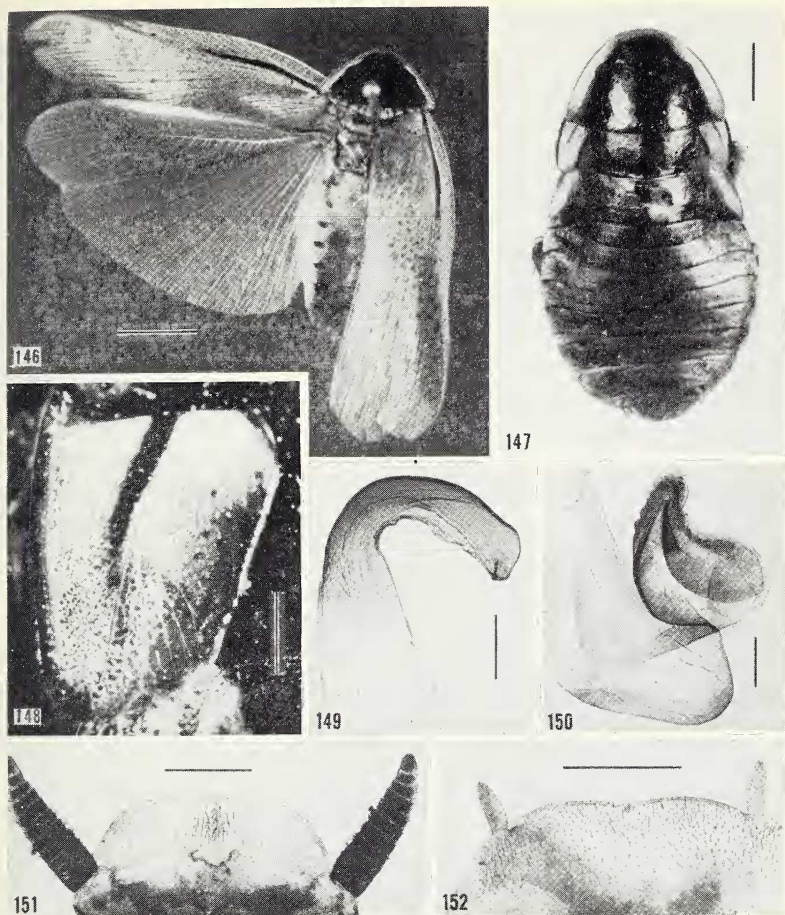
14. *C. marginalis* (Walker)

(Figs. 137-145, 274)

Ischnoptera marginalis Walker, Cat. Blatt. Brit. Mus. 1868, p. 119, ♂.

♂ (Fig. 137). Head yellow with partly suffused reddish markings; face passing into occiput with an angulation between eyes. Pronotum triangular in dorsal aspect; disk almost uniformly reddish brown, with suffused lyrate pattern which is indicated only by its darker color; lateral margins transparent and their outer edging yellow; the usual series of striae on hind margin almost completely obscured by base color. Tegmina somewhat exceeding apex of abdomen, uniformly brownish (the darker maculation so usual in other species is here completely lacking); marginal field whitish; humeral stripe reddish brown, distally breaking up into branches directed to anterior margins of tegmina. Dorsum of abdomen brownish, distally becoming darker; first tergite as figured (Fig. 274). Supra-anal plate whitish. Venter of abdomen yellowish distally darker. Genitalia as shown in figures 140-145; R2 beaklike (Figs. 141, 144). Legs yellowish; lower posterior margin of front femora with a distal and 3 or 4 additional spines; same margin of posterior femora with 0-2 spines. Length of body 17 mm; length of pronotum 4.5 mm; width of pronotum 5.8 mm; length of tegmina 17 mm.

♀ (Fig. 138). Head as in male. Pronotum speckled with brown and dotted with reddish; disk with suffused lyrate pattern; hind margin convex in its middle part; latero-caudal angles not at all produced backwards. Tegmina reduced to lateral lappets (Fig. 139), their outer margins yellow. Dorsum of abdomen thickly speckled with dark brown and sparsely dotted with reddish among the dark speckles. Supra-anal plate with irregularly dentate hind margin. Cerci reddish brown with yellowish apices. Venter of abdomen reddish brown with darker stigmatic maculae. Legs as in male. Length



Figures 146-152. *Calolampra solida*. 146. ♂ (268 L in SM), holotype, Peak Downs, Q. 147-148. ♀ (4 L in SM), paratype, Peak Downs, Q. 147. Dorsal view. 148. Tegmen of ♀. 149-152. Genitalia, supra-anal plate, and hypandrium of ♂ holotype shown in figure 146. Scale: Fig. 146 = 6 mm; Fig. 147 = 4 mm; Figs. 148, 151-152 = 1 mm; Figs. 149-150 = 0.2 mm.

of body 17.5-22.5 mm; length of pronotum 4.2-5 mm; width of pronotum 7.5-8.3 mm; length of tegmina 3-4.5 mm.

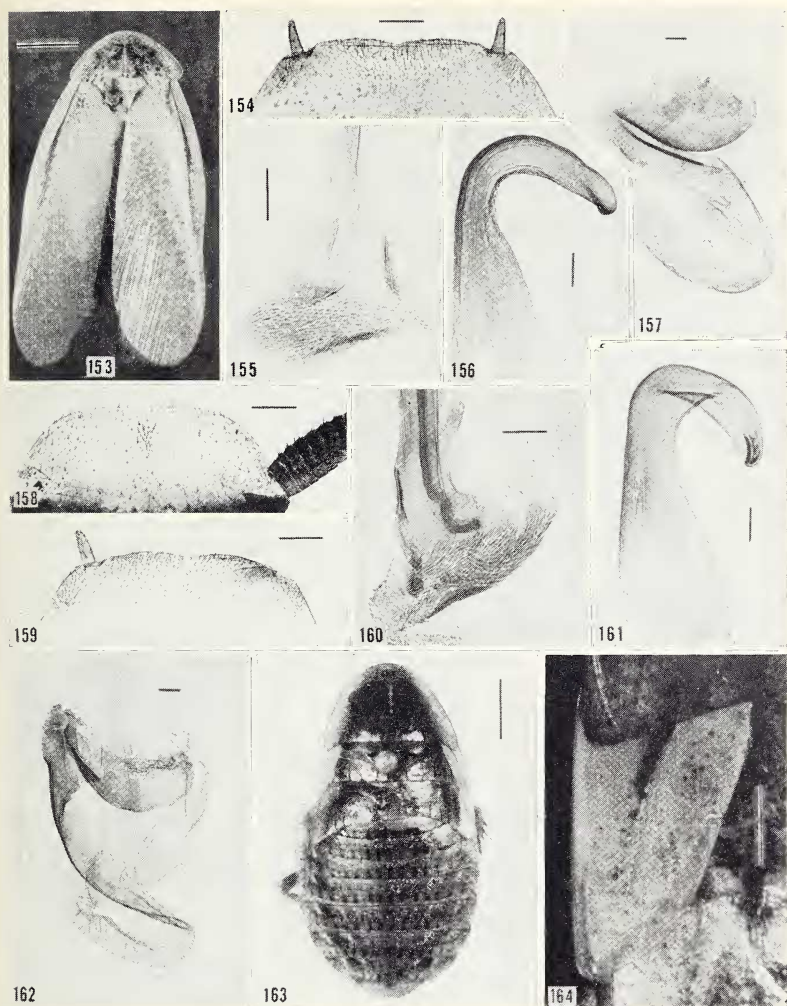
Material examined: ♂ (BMNH) (holotype), Swan River, W. A., ex. Dr. Bacon's coll.; ♂ (45 BMNH), Yanchep (32 miles north of Perth), W. A. 20-31.XII.1935. R. E. Turner leg.; ♂ (967 L), Rottnest Isl., W. A., 1940; ♀ (180 L) Jandakot, W. A., 1950; ♀ (137 MCZ), Kings Park, Perth, W. A., 7.IX.1931, W. M. Wheeler leg.; ♀ (L) Rottnest Isl., W. A., 1933; ♀ (L), Kings Park, Perth, W. A., XII.1951, T. Gislén leg.

15. *C. solida* sp. n.

(Figs. 146-152, 265)

♂ (Fig. 146). Head yellow; face black from interocular area to clypeus. Antennae with basal joint yellow, following 10-12 joints brownish, remainder blackish. Pronotum triangular in dorsal aspect; disk shining black, lateral margins yellow; the usual longitudinal striae on hind margin only indicated by their color, not raised; greatest width beyond the middle. Tegmina somewhat exceeding apex of abdomen, semitransparent, rather sparsely furnished with small brown speckles which are present even on the normally covered portion of right tegmen and are absent only in marginal field; solidly black humeral stripe present. Wings as long as tegmina, weakly infuscated and with brown veins. Dorsum of abdomen yellowish; first tergite as figured (Fig. 265). Supra-anal plate (Fig. 151) with rounded latero-caudal angles and almost straight hind margin. Hind margin of hypandrium weakly emarginate (Fig. 152). Venter of abdomen yellow with blackish stigmatic markings. R2 and L1 of genitalia shown in figures 149-150 (L2vm and prepuce accidentally lost). Legs pale brown to yellowish; lower posterior margin of front femora with 1 additional spine; same margin of hind femora unarmed or with one spine. Length of pronotum 6.6 mm; width of pronotum 8.8 mm; length of tegmina 25 mm.

♀ (Fig. 147). Head and antennae as in male. Pronotum transverse; disk shining black, provided with several scattered impressed punctures; lateral margins yellow with blackish edging; the usual longitudinal striae of hind margin suffused, nearly completely covered by black; middle part of hind margin convex; latero-caudal angles not produced backwards. Tegmina (Fig. 148) reduced to lateral vestiges; their outer margins with black edging. Wing vestiges absent. Mesonotum black with a yellow marginal spot on each lateral margin. Dorsum and venter of abdomen almost uniform



Figures 153-164. *Calolampra irrorata*. 153-157. ♂ (59 BMNH), lectotype, A. (without exact location). 153. Adult. 154. Hypandrium. 155-157. Genitalia. 158-162. ♂ (192 USNM), Cairns, Q. 158-159. Supra-anal and subgenital plates. 160-162. Genitalia. 163. ♀ (2 L), Gayndah, Q. 164. Tegmen of female shown in figure 163. Scale: Figs. 153, 163 = 4 mm; Figs. 154, 158-159 = 0.5 mm; Figs. 155-157, 160-162 = 0.1 mm; Fig. 164 = 1 mm.

black. Legs as in male. Length of body 28 mm; length of pronotum 7.5 mm; width of pronotum 10.5 mm; length of tegmina 4.5 mm.

Material examined: ♂ (268 L in SM) (holotype, herewith designated), Peak Downs, Q., ex Mus. Godeffroy; ♀ (4 L in SM) (paratype), same locality.

16. *C. irrorata* (Fabr.)

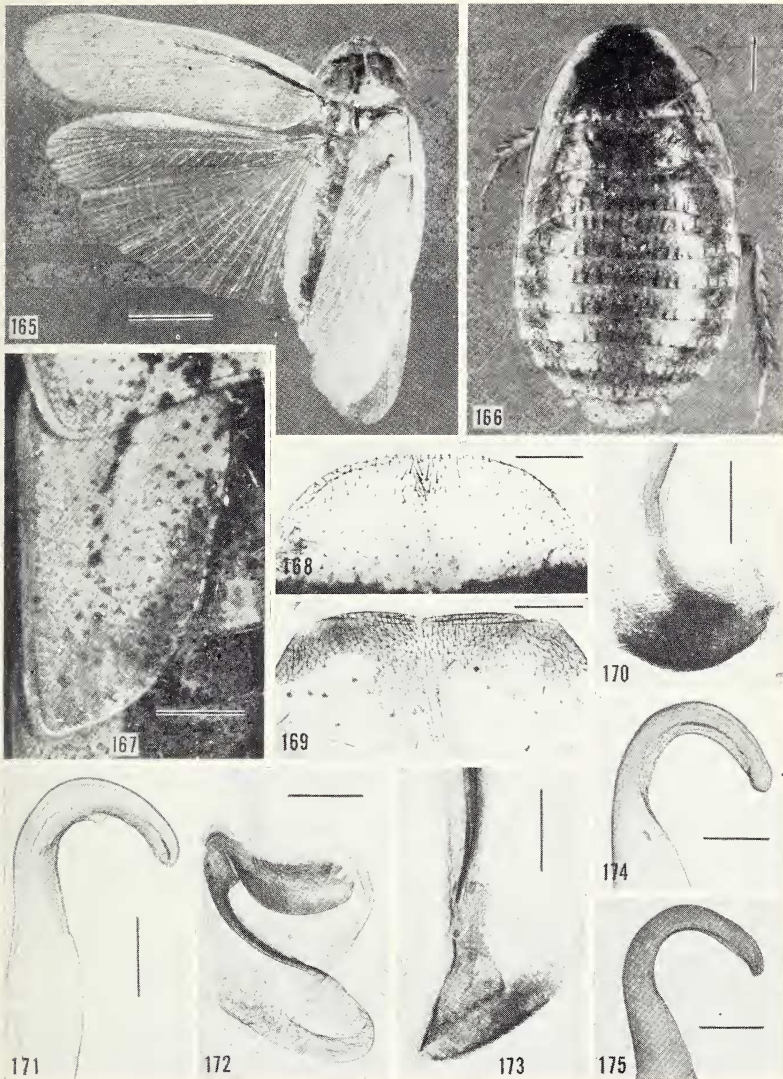
(Figs. 153-164, 268)

Blatta irrorata Fabricius, Syst. Ent. 1775, p. 272, ♂.

♂ (Fig. 153). Pronotum triangular in dorsal aspect, with the greatest width beyond its middle; lateral margins hyaline with their edging lined dark brown inside; disk speckled with dark. Tegmina well developed, somewhat exceeding apex of abdomen, covered with rather small brown speckles which are partly present also in the normally covered part of right tegmen. Wings as long as tegmina, infumated and with brown veins. Abdomen above and below yellowish. First tergite as figured (Fig. 268). Hind margins of supra-anal plate (Fig. 158), and hypandrium (Figs. 154, 159) shallowly emarginate mesally. Genitalia shown in figures 155-157, 160-162. Legs yellowish with brown spines; lower posterior margin of hind femora armed with 0 to 2 spines; arolia well developed. Length of body 23 mm; length of pronotum 5.5 mm; width of pronotum 8 mm; length of tegmina 20 mm.

♀ (Fig. 163). Pronotum transverse; disk thickly speckled with black forming a lyrate pattern; lateral margins yellow, their edging lined dark brown inside; hind margin straight in dorsal aspect and provided with the usual series of black longitudinal striae which are not raised but only marked by their color; latero-caudal angles distinctly produced backwards. Tegmina reduced to lateral vestiges (Fig. 164) which are almost throughout yellow. Dorsum of abdomen thickly speckled with black and reddish brown. Supra-anal plate yellow sparsely speckled and dotted with reddish. Venter of abdomen almost uniform reddish brown, distally becoming darker. Legs as in male but arolia very small. Length of body 23 mm; length of pronotum 6 mm; width of pronotum 9 mm; length of tegmina 4-4.5 mm.

Material examined: ♂ (59 BMNH), (lectotype, designated by Roth and Princis, 1971, Figs. 27-29), A. (without exact locality), ex Banks' Coll.; ♂ (192 USNM), Cairns, Q., at light, J. F. Illingworth leg.; ♀ (2 L in SM), Gayndah, Q., ex. Mus. Godeffroy.



Figures 165-175. *Calolampra mjobergi*. 165. ♂ (296 L in SM), holotype, Colosseum, Q. 166. ♀ (143 MCZ), paratype, Ravenshoe, Atherton Tab., Q. 167. Tegmen of ♀ shown in figure 166. 168-172. Supra-anal plate, hypandrium, and genitalia of holotype shown in figure 165. 173-174. ♂ (297 L), Malanda, Q. Genitalia. 175. ♂ (105 MCZ), paratype, Ravenshoe, Atherton Tab., Q. R2 of genitalia. Scale: Fig. 165 = 5 mm; Fig. 166 = 3 mm; Fig. 167 = 1 mm; Figs. 168-169 = 0.5 mm; Figs. 170-175 = 0.2 mm.

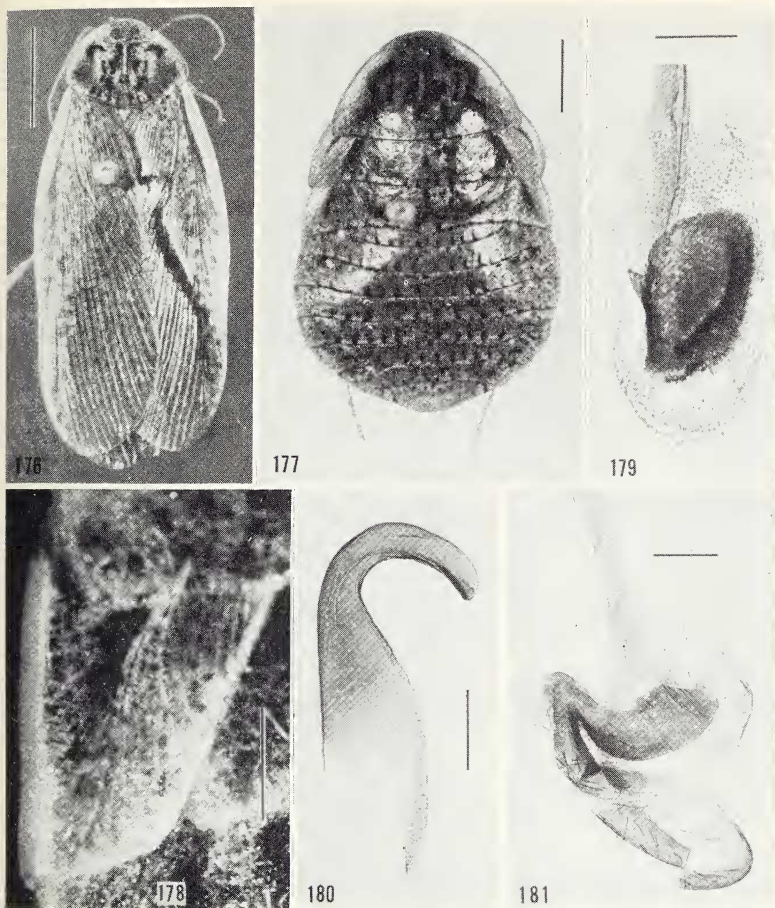
17. *C. mjoebergi* sp. n.

(Figs. 165-175, 260)

♂ (Fig. 165). Pronotum triangular in dorsal aspect, with greatest width beyond its middle; disk speckled with black; lateral margins hyaline with their outer edging lined brown inside. Tegmina somewhat exceeding apex of abdomen, furnished with scattered small dark speckles which are lacking in the normally covered portion of right tegmen. Wings as long as tegmina, weakly infumated and with brownish veins. Dorsum of abdomen brownish, venter yellowish. First tergite as figured (Fig. 260). Hind margin of supra-anal plate convex, entire (Fig. 168). Hind margin of hypandrium mesally very shallowly emarginate (Fig. 169). Genitalia shown in figures 170-175. R₂ relatively uniform in width and slender throughout with rounded apex (Figs. 171, 174-175). Legs yellowish with brown spines; lower posterior margin of hind femora armed with 1-2 spines; well developed arolia present. Length of body 20 mm; length of pronotum 5.5 mm; width of pronotum 6.8 mm; length of tegmina 19 mm.

♀ (Fig. 166). Head pale brownish with a transverse black band between eyes. Disk of pronotum as well as mesonotum, metanotum, and tergites so thickly speckled with dark that they appear completely black (only close examination shows that there are spots of yellow ground color present among the dark speckles). Lateral margins of pronotum yellow with numerous small reddish dots which are crowded toward the disk; among these dots are several larger blackish spots; outer edging of the lateral margins lined brown inside. Tegmina lobiform, yellowish with blackish dots, their apices exceeding hind margin of mesonotum (Fig. 167). Posterior margins of pro-, meso-, and metanotum as well as those of tergites provided each with a transverse row of somewhat raised black striae. Supra-anal plate entire, yellow with numerous small reddish dots and several larger blackish spots among the former. Legs as in male but with very small arolia. Length of body 21-22 mm; length of pronotum 6 mm; width of pronotum 9-9.5 mm; length of tegmina 4-4.5 mm.

Material examined: ♂ (296 L in SM) (holotype, herewith designated), Colosseum, Q., Mjöberg leg.; ♂ (297 L) (paratype). Malanda, Q., Mjöberg leg.; ♂ (105 MCZ) (paratype), Ravenshoe, Atherton Tab., Q., 8000 ft., IV.1932, Darlington leg.; 2 ♀♀ (142-143 MCZ) (paratypes), same data.



Figures 176-181. *Calolampra propinqua*. 176. ♂ (266 L), holotype, Wee Waa, N.S.W. 177. ♀ (267 L), paratype, Cabramatta, Blue Mts., N.S.W. 178. Tegmen of ♀ shown in figure 177. 179-181. Genitalia of ♂ holotype shown in figure 176. Scale: Fig. 176 = 4 mm; Fig. 177 = 3 mm; Fig 178 = 1 mm; Figs. 179-181 = 0.2 mm.

18. *C. propinqua* sp. n.

(Figs. 176-181, 271)

♂ (Fig. 176). Head yellowish, with a black patch in interocular-ocellar area. Antennae yellowish distally becoming somewhat darker. Pronotum triangular in dorsal aspect, widest beyond its middle; disk speckled and dotted with black; edging of lateral margins lined brown inside; hind margin with a series of black striae. Tegmina somewhat exceeding apex of abdomen, covered with small blackish spots; costal field uniform pale yellow; humeral streak black, distally broken up into separate flecks; the normally covered portion of right tegmen solidly colored. Wings brownish, as long as tegmina, with deep brown veins. Dorsum of abdomen dark brown; first tergite as figured (Fig. 271). Supra-anal plate transverse, distally weakly convex. Genitalia shown in figures 179-181. Venter of abdomen yellow with black stigmatic maculae. Legs yellow with brown spines; posterior margin of hind femora unarmed; well developed arolia present. Length of body 16 mm; length of pronotum 4 mm; width of pronotum 5.4 mm; length of tegmina 15.5-16 mm.

♀ (Fig. 177). Head and antennae as in male. Pronotum speckled and dotted with blackish and reddish; edging of lateral margins yellow, lined brown inside; hind margin in dorsal aspect slightly convex, with a series of black longitudinal striae; latero-caudal angles weakly produced backwards. Tegmina reduced to lobiform vestiges somewhat obliquely truncate (Fig. 178), edging of their outer margins yellow. Dorsum of abdomen thickly speckled with blackish. Supra-anal plate yellowish, provided with some dark dots. Venter of abdomen castaneous. Legs yellowish with brown spines; arolia absent. Length of body 16-18 mm; length of pronotum 4.4-5.2 mm; width of pronotum 6.8-8.2 mm; length of tegmina 3.5-4 mm.

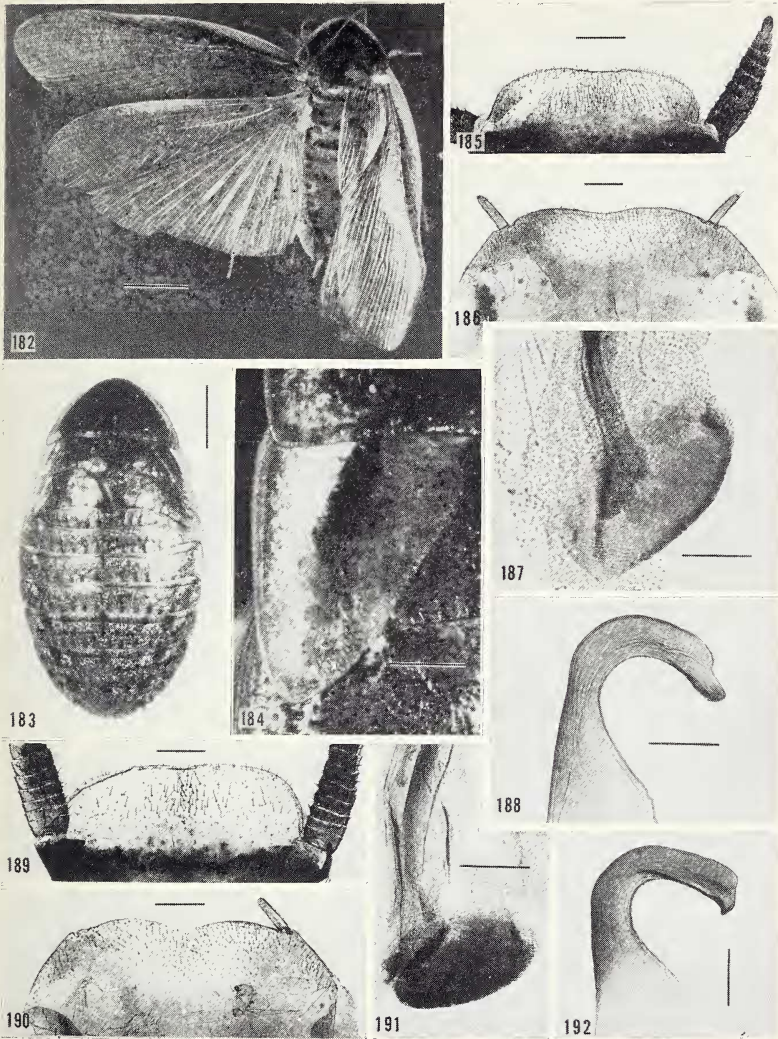
Material examined: ♂ (266 L) (holotype, herewith designated), Wee-Waa (at light), N.S.W., 21.I.1960, M. Nikitin leg.; ♀ (267 L) (paratype), Cabramatta, Blue Mts., N.S.W., 14.XII.1960, M. Nikitin leg.; ♀ (144 MCZ) (paratype), Melbourne, V., H. Edwards leg. ♀ (148 MCZ) (paratype), A. (without exact locality), H. Edwards leg.

19. *C. fraserensis* (Tepper)

(Figs. 182-192, 263)

Epilampra fraserensis Tepper, Trans. R. Soc. S. Austral. XVII, 1893, p. 59, ♂.

♂ (Fig. 182). Pronotum broadly triangular in dorsal aspect, with



Figures 182-192. *Calolampra fraserensis*. 182. ♂ (5 SAM), lectotype, Fraser Range, W. A. 183. ♀ (138 MCZ), Rottnest Island, W. A. 184. Tegmen of ♀ shown in figure 183. 185-188. Supra-anal plate, hypandrium, and genitalia of ♂ lectotype shown in figure 182. 189-192. ♂ (SAM), Mt. Bryan East, S. A. 189-190. Supra-anal plate and hypandrium. 191-192. Genitalia. Scale: Figs. 182, 183 = 5 mm; Figs. 184 = 1 mm; Figs. 185-186, 189-190 = 0.5 mm; Figs. 187-188, 191-192 = 0.2 mm.

greatest width beyond its middle; disk speckled with dark forming a lyrate pattern; lateral margins pale yellowish. Tegmina covered with brown blotches which are partly confluent, especially in anal area; the normally covered portion of right tegmen solidly colored. Wings blackish, about as long as tegmina. First tergite as figured (Fig. 263). Hind margin of supra-anal plate nearly straight (Figs. 185, 189), same margin of hypandrium emarginate (Figs. 186, 190). Genitalia shown in figures 187-188, 191-192. Venter of abdomen as well as legs pale yellowish; lower posterior margin of hind femora unarmed; well developed arolia present. Length of body 19 mm; length of pronotum 5 mm; width of pronotum 7.5 mm; length of tegmina 24 mm.

♀ (Fig. 183). Head reddish; face passing into occiput with a distinct transverse angulation between eyes. Pronotum nearly smooth, at most several large impressed punctures present; hind margin straight in dorsal aspect. Tegmina reduced to lateral vestiges, apices subacuminate (Fig. 184), edging of their outer margins dark brown. Dorsum of abdomen thickly speckled with blackish. Venter of abdomen reddish in the middle, blackish laterally. Legs as in male. Length of body 22 mm; length of pronotum 5.1 mm; width of pronotum 8 mm; length of tegmina 4.5 mm.

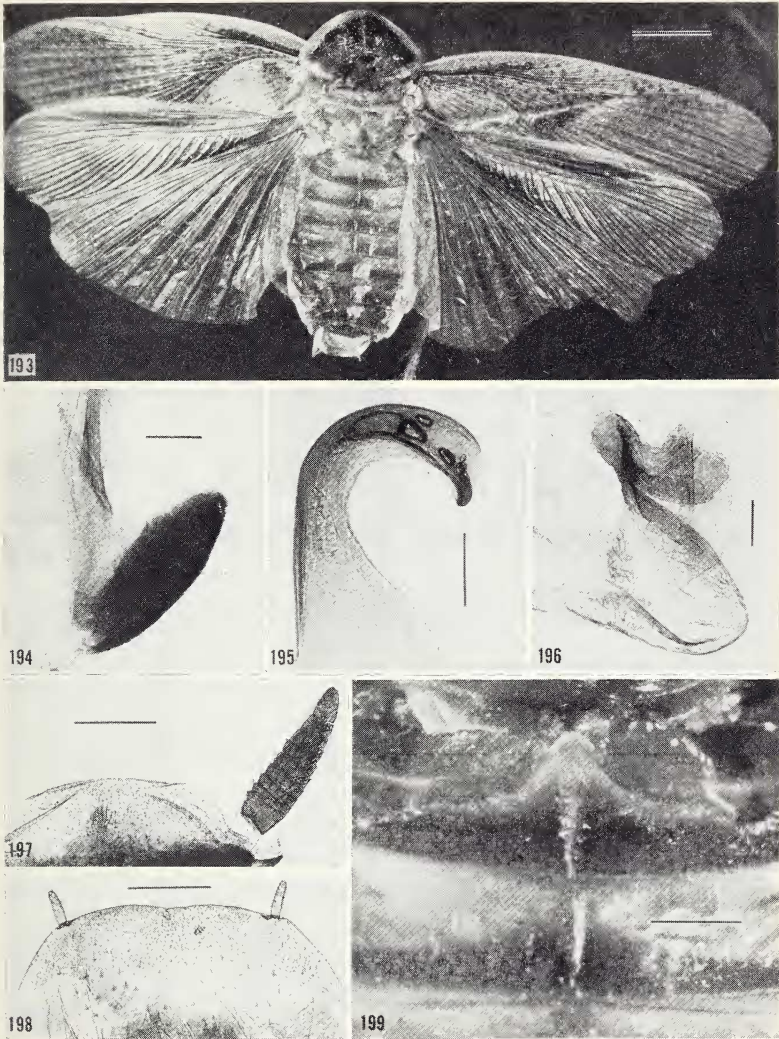
Material examined: ♂ (5 SAM) (lectotype, herewith designated). Fraser Range, W. A., X.1891, R. Helms leg.; ♂ (24 SAM), Mt. Bryan East, S. A., 13.XII.1886, J. Best leg.; ♀ (138 MCZ), Rottneest Island, W. A., 23.X.1931, P. J. Darlington leg.

20. *C. notabilis* (Walker)

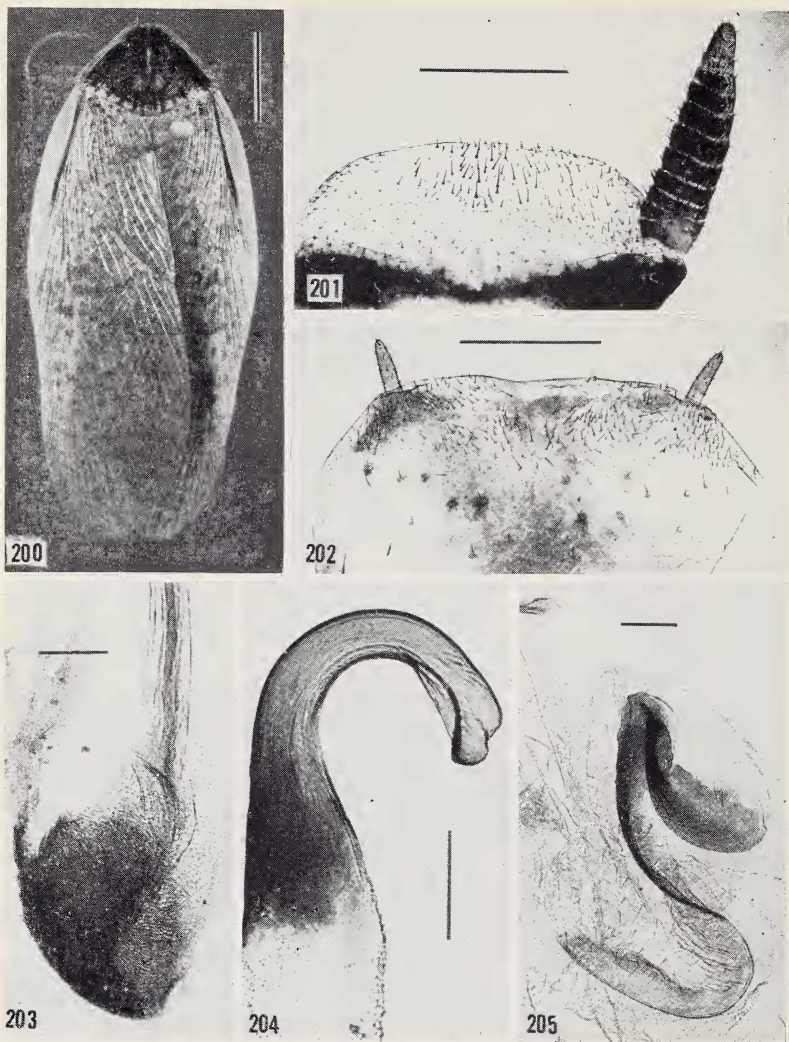
(Figs. 193-215)

Epilampra notabilis Walker, Cat. Blatt. Brit. Mus. 1868, p. 202, ♂.

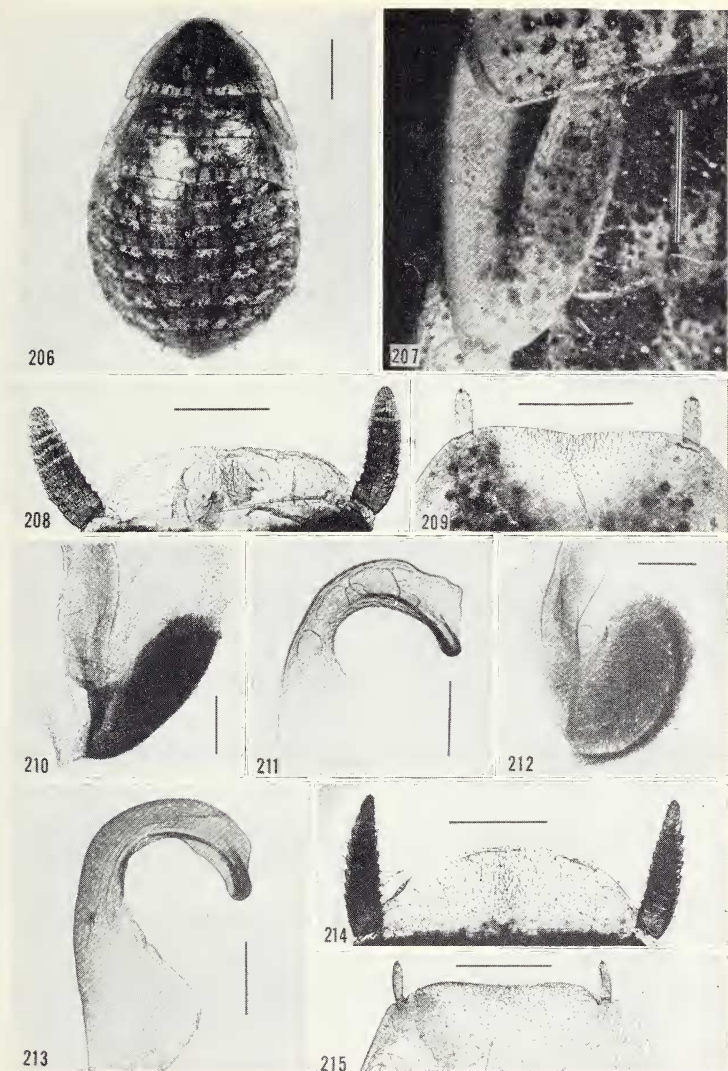
♂ (Figs. 193, 200). Head yellowish, with a broad black transverse band between eyes extending to the imaginary line connecting antennae. Antennae with basal joint yellow and remainder fuscous. Pronotum thickly speckled and dotted with blackish brown and reddish; edging of lateral margins yellow; hind margin with dark, radially arranged striae. Tegmina decidedly exceeding apex of abdomen, covered by numerous small dark dots; costal field yellow; humeral streak broad, but beyond middle is broken up into separate flecks; the normally covered portion of right tegmen solidly brownish. Wings as long as tegmina, brownish, with deep brown veins. Dorsum of abdomen pale, obscurely banded with brownish; first tergite modified (Fig. 199). Supra-anal plate pale, with convex



Figures 193-199. *Calolampra notabilis*. ♂ (60 BMNH), holotype, A. (without exact locality). 193. Adult. 194-196. Genitalia. 197-198. Supra-anal and subgenital plates. 199. Modification of first tergite. Scale: Fig. 193 = 5 mm; Figs. 194-196 = 0.2 mm; Figs. 197-199 = 1 mm.



Figures 200-205. *Calolampra notabilis*, ♂ (295 L), V. (without exact locality). 200. Adult. 201-202. Supra-anal plate and hypandrium. 203-205. Genitalia. Scale: Fig. 200 = 4 mm; Figs. 201-202 = 1 mm; Figs. 203-205 = 0.2 mm.



Figures 206-215. *Calolampra notabilis*. 206. ♀ (181 L), V. (without exact locality). 207. Tegmen of ♀ shown in figure 206. 208-211. ♂ (23 SAM), Warunda, Eyrie Pen., S. A. 208-209. Supra-anal plate and hypandrium. 210-211. Genitalia. 212-215. ♂ (151 MCZ), A. (without exact locality). 212-213. Genitalia. 214-215. Supra-anal plate and hypandrium. Scale: Fig. 206 = 4 mm; Fig. 207 = 2 mm; Figs. 208-209, 214-215 = 1 mm; Figs. 210-213 = 0.2 mm.

hind margin (Figs. 197, 201, 214) or very weakly emarginate (Fig. 208). Venter of abdomen yellowish with black stigmata. Hypandrium weakly emarginate (Figs. 198, 202, 209, 215), slightly exceeding supra-anal plate. Genitalia as figured (Figs. 194-196, 203-205, 210-213). Legs yellowish with brown spines; lower posterior margin of hind femora usually unarmed. Length of body 16.5 mm; length of pronotum 5 mm; width of pronotum 6.5-7 mm; length of tegmina 21 mm.

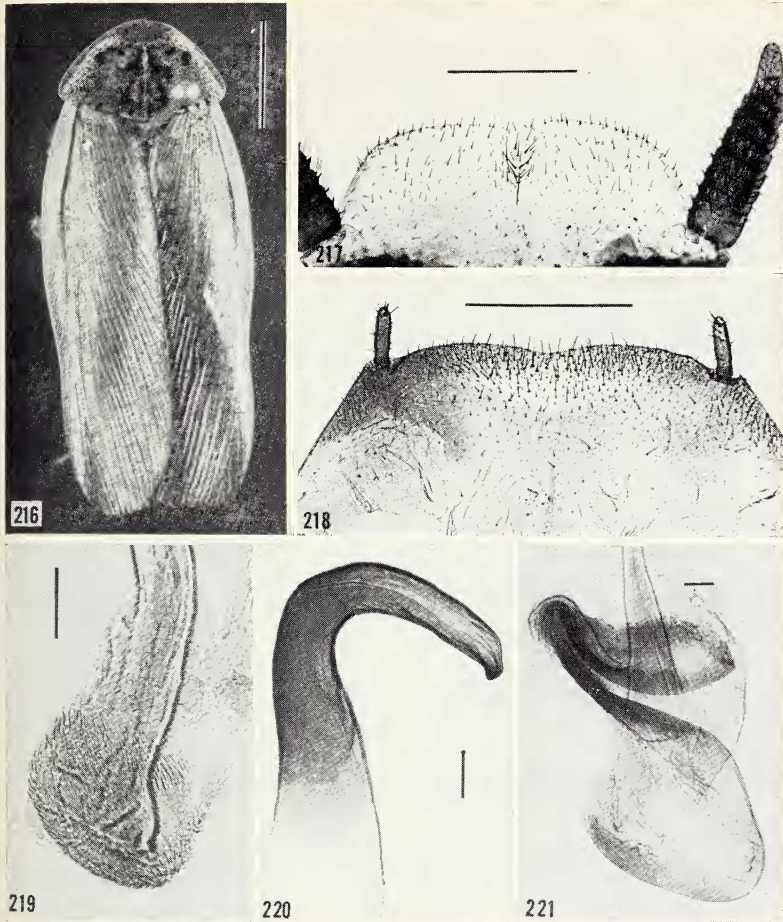
♀ (Fig. 206). Head generally as in male. Pronotum transverse, its hind margin slightly convex in dorsal aspect; edging at lateral margins uniform brown, not lined darker inside; latero-caudal angles not produced backwards. Tegmina vestigial (Fig. 207) edging of their outer margins yellow. Latero-caudal angles of metanotum rounded. Legs as in male with very small arolia. Length of body 22.5 mm; length of pronotum 6 mm; width of pronotum 9-10 mm; length of tegmina 4.5-5 mm.

Material examined: ♂ (60 BMNH) (holotype), A. (without exact locality) ex Mr. Lambert's Coll.; ♂ (295 L), V. (without exact locality); ♂ (151 MCZ), A. (without exact locality), ex S. H. Scudder's Coll.; ♂ (23 SAM), Warunda, Eyrie Penin., S. A., 18.X.1909, B. Zietz leg.; ♀ (181 L), V. (without exact locality).

21. *C. queenslandica* sp. n.

(Figs. 216-221, 270)

♂ (Fig. 216). Head yellow; interocular-ocellar area with a brown transverse band which in the latter area is medially interrupted. Pronotum in dorsal aspect broadly triangular with greatest width beyond its middle; disk with lyrate pattern formed by brown speckles and dots; lateral margins yellow rather sparsely dotted with brown; cephalic margin continuously arcuate with nondifferentiated lateral margins; hind margin provided with the usual series of brown longitudinal striae. Tegmina somewhat exceeding apex of abdomen, sparsely dotted with pale brownish; the normally covered portion of right tegmen solidly colored. Dorsum of abdomen pale brownish; first tergite as figured (Fig. 270). Venter of abdomen yellow with brown stigmatic maculae. Hind margin of supra-anal plate (Fig. 217) and hypandrium (Fig. 218) weakly emarginate mesally. Genitalia shown in figures 219-221. Legs yellow with brown spines; lower posterior margin of hind femora unarmed. Length of body



Figures 216-221. *Calolampra queenslandica*. ♂ (271 L in SM), holotype, Q. (without exact locality). 216. Adult. 217-218. Supra-anal plate and hypandrium. 219-221. Genitalia. Scale: Fig. 216 = 5 mm; Figs. 217-218 = 1 mm; Figs. 219-221 = 0.1 mm.

20 (?) mm; length of pronotum 5.4 mm; width of pronotum 8 mm; length of tegmina 20 mm.

♀. Unknown.

Material examined: ♂ (271 L in SM) (holotype, herewith designated), Q. (without exact locality).

22. *C. atomifera* (Walker)

(Figs. 222-248, 272)

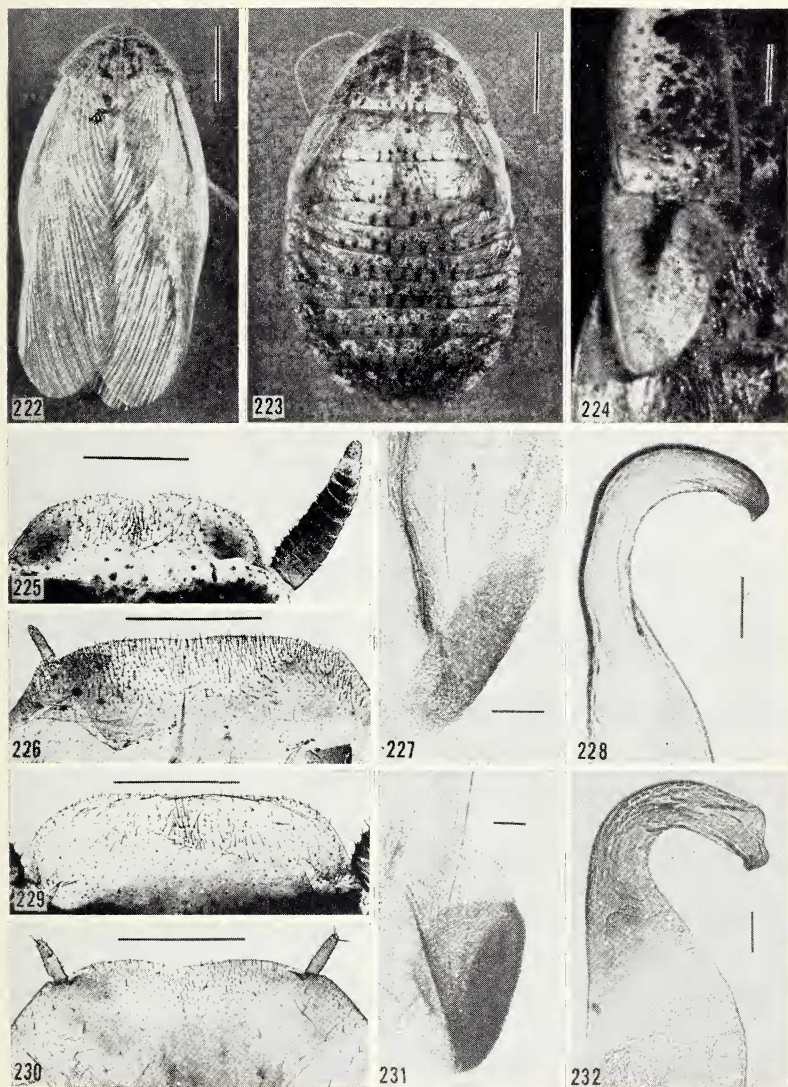
Epilampra atomifera Walker, Cat. Blatt. Brit. Mus. 1868, p. 69, ♂.

Polyzosteria propria Walker, Cat. Blatt. Brit. Mus. 1868, p. 161, ♀.

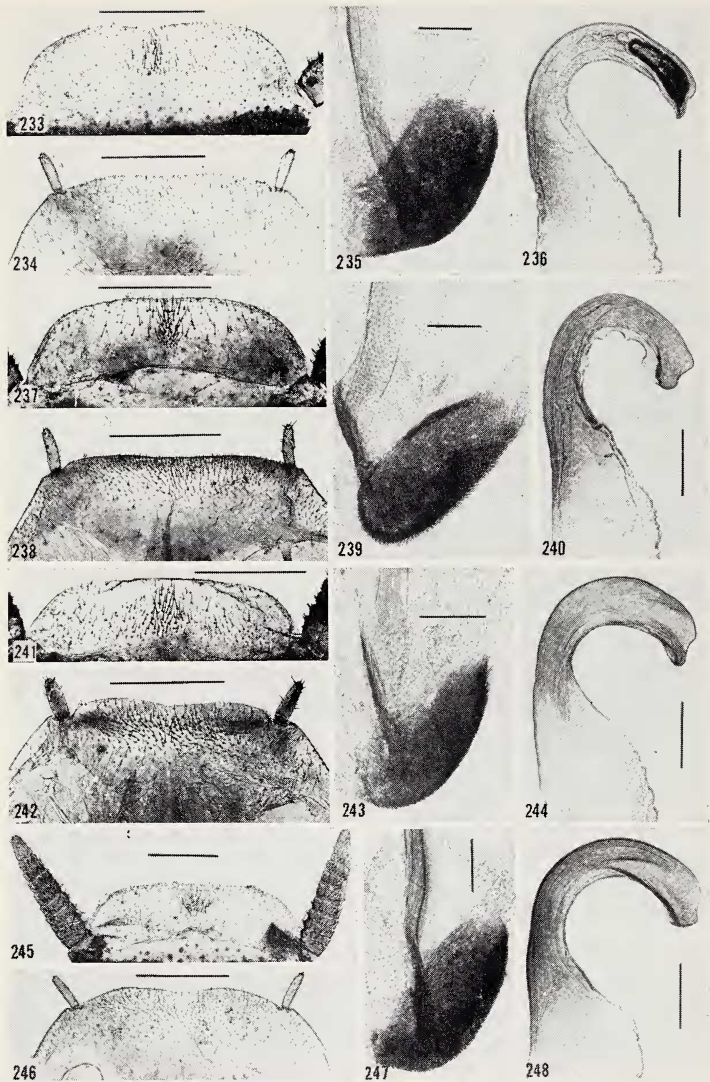
Epilampra notabilis Tepper (nec Walker 1868), Trans. R. Soc. S. Austral. XVII, 1893, p. 59, part. ♂ ♀.

♂ (Fig. 222). Pronotum broadly triangular in dorsal aspect, with greatest width beyond its middle; disk speckled and dotted with reddish to deep brown. Antennae ferruginous, except the pale yellowish basal joint. Tegmina somewhat exceeding apex of abdomen, transparent, but sparsely dotted with reddish brown; the normally covered portion of right tegmen solidly colored. Wings as long as tegmina, moderately infumate and with deep brown veins. First tergite as figured (Fig. 272). Supra-anal plate pale yellowish with slightly emarginate (Figs. 225, 233, 237, 245), or entire (Figs. 229, 241) hind margin. Cerci and hypandrium pale yellowish; hind margin of the latter almost straight (Fig. 226) or weakly concave (Figs. 230, 234, 238, 242, 246). Genitalia shown in figures 227-228, 231-232, 235-236, 239-240, 243-244, 247-248. Legs yellowish with brown spines; lower posterior margin of hind femora unarmed. Length of body 17-19.5 mm; length of pronotum 4-5.2 mm; width of pronotum 6-7.5 mm; length of tegmina 17-19.5 mm.

♀ (Fig. 223). Pronotum at most provided with several scattered large impressed punctures (not with numerous, fine, impressed dots); hind margin straight in dorsal aspect, at least in its middle part. Tegmina reduced to lateral lappets; edging of outer margins of lappets brown (not black); apex of tegminal vestiges rounded (Fig. 224). Latero-caudal angles of pronotum slightly produced backwards. Face regularly arcuate with occiput (no angulation present). Abdomen above thickly speckled with dark. Underside of abdomen reddish in the middle, black laterally. Legs yellowish; lower posterior margin of front femora armed only with 1 distal spine; same margin of hind femora usually completely unarmed. Length of body 17.3-20 mm, length of pronotum 5-5.2 mm, greatest width of pronotum 8-9 mm; length of tegmina 3.5 mm.



Figures 222-232. *Calolampra atomifera*. 222. ♂ (64 BMNH), holotype, Nova Hollandia (without exact locality). 223. ♀ (65 BMNH), lectotype of *Polyzosteria propria* Walker, S. A. (without exact locality). 224. Tegmen of female shown in figure 223. 225-228. Supra-anal plate, hypandrium, and genitalia of ♂ holotype shown in figure 222. 229-232. ♂ (7 SAM), Adelaide, S. A. Supra-anal plate, hypandrium, and genitalia. Scale: Figs. 222-223 = 4 mm; Figs. 224, 225-226, 229-230 = 1 mm; Figs. 227-228, 231-232 = 0.1 mm.



Figures 233-248. *Calolampra atomifera*. Male supra-anal plates, subgenital plates, and genitalia. 233-236. (6a SAM), Ardrossan Cliffs, S. A. 237-240. (8 SAM), Bordertown, S. A. 241-244. (9 SAM), Happy Valley (near Adelaide), S. A. 245-248. (4 SAM), Ardrossan, S. A. Scale: Figs. 233-234, 237-238, 241-242, 245-246 = 1 mm; Figs. 235-236, 239-240, 243-244, 247-248 = 0.2 mm.

Material examined: ♂ (64 BMNH), (holotype of *atomifera*), Nova Hollandia (without exact locality), ex Mr. Hunter's Coll.; ♀ (65 BMNH), (lectotype of *propria*), S. A. (without exact locality), ex R. Bakewell's Coll.; ♂ (4 SAM), Ardrossan, S. A., I.1884, Cadd leg.; this specimen was labelled by Tepper as type of *notabilis*, but his action is invalid because the specimen did not belong to the original material used by Walker; ♂ (6a SAM), Ardrossan Cliffs (in moist dust), S. A., 26.XI.1885, Tepper leg.; this specimen was labelled by Tepper as cotype of *notabilis*, but his action is invalid (see above); ♂ (7 SAM), Adelaide, S. A., Botan. Park (under bark) 17.XII.1885, Tepper leg.; ♀ (SAM) Callington, S. A., (under rubbish) 19.I.1886, Tepper leg.; ♂ (8 SAM), Bordertown, S. A., (under bark of *Eucalyptus*), 8.I.1878, Tepper leg.; ♀ (SAM), Adelaide, S. A., 29.VI.1892, A. Zietz leg.; ♂ (9 SAM), Happy Valley (near Adelaide), S. A., 27.VIII.1903, Burslem leg.

23. *C. obscura* (Tepper)

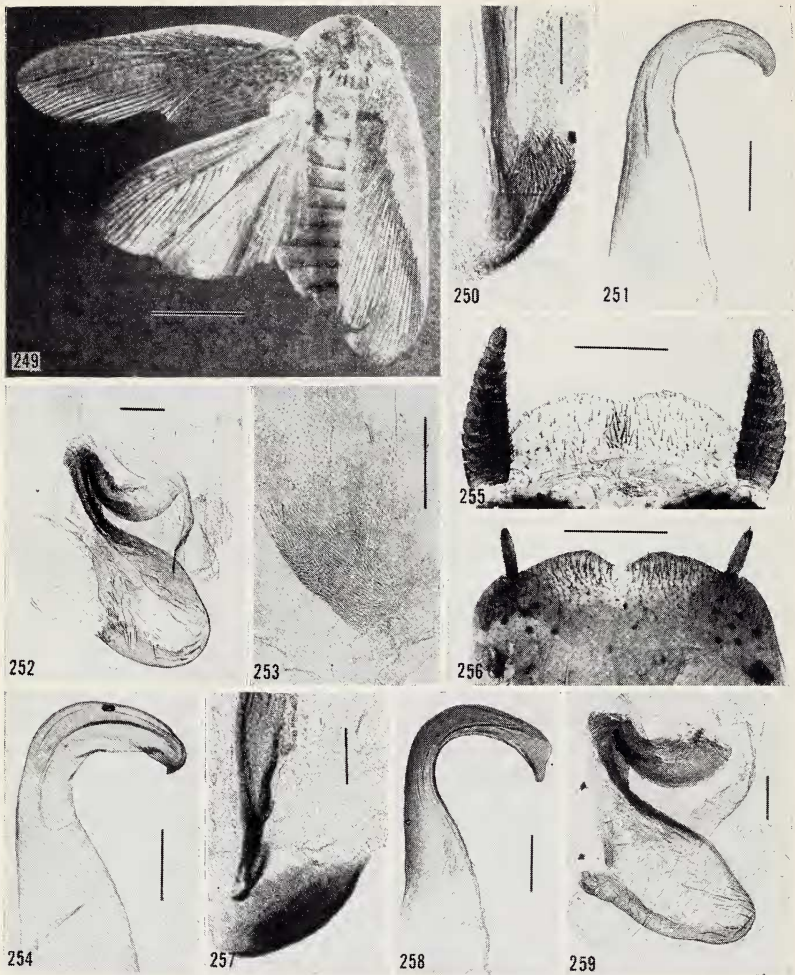
(Figs. 249-252, 264)

Epilampra obscura Tepper, Trans. R. Soc. S. Austral. XVII, 1893, p. 64, ♀.

Calolampra submarginalis Princis, Lund Univ. Arsskr., N. F. Avd. 2, Vol. 50, No. 13, (also K. Fysiogr. Sällsk. i Lund Handl. N. F. Vol. 65, No. 13, 1954, p. 32, ♂ and ♀ nymph (not ♂ and ♀ as given), *syn. nov.*

♂ (Fig. 249). Head yellowish, interocular space piceous. Antennae fuscous with basal joint yellowish. Pronotum thickly speckled with blackish on pale yellowish ground; disk with symmetrical marking of dark brown; hind margin furnished with dark longitudinal striae. Tegmina considerably exceeding apex of abdomen, thickly speckled with dark; costal margin pale yellowish. Wings blackish, as long as tegmina. First tergite shown in figure 264. Supra-anal plate subquadrate, with latero-caudal angles rounded. Venter pale yellowish with dark stigmatic dots on sternites. Hypandrium emarginate. Genitalia shown in figures 250-252. Legs pale yellowish; lower posterior margin of hind femora unarmed. Length of body 18-19 mm; length of pronotum 5 mm; width of pronotum 6.8-7.2 mm; length of tegmina 18-18.5 mm.

♀. Dull reddish brown. Pronotum furnished with many fine, impressed dots. Tegmina reduced to lateral lappets with rounded apices. Wings absent. Length of body 23 mm; length of pronotum 5 mm; width of pronotum 10 mm; length of tegminal vestiges



Figures 249-259. *Calolampra* spp. 249-252. *C. obscura*. 249. ♂ (270 L), West Kimberly, W. A. 250-252. Male genitalia of specimen shown in figure 249. 253-256. ♂ *C. insularis*. (107 MCZ), holotype, Murray Island, Torres Strait. 253-254. Genitalia. 255-256. Supra-anal and subgenital plates. 257-259. *C. pernotabilis*. (1 L in SM), ♂ holotype, Mt. Tambourine, Q. Genitalia. Scale: Fig. 249 = 6 mm; Fig. 250 = 0.1 mm; Figs. 251-254, 257-259 = 0.2 mm; Figs. 255-256 = 1 mm.

3 mm. The specimen described by Princis (1954, p. 33) as a female is in reality an immature individual (probably of last nymphal stage).

Material examined: ♀ (SAM) (lectotype of *obscura*, herewith designated), N. T., 3.VIII.1886, Dr. Magarey leg.; 2 nymphs (SAM), same data; ♂ (L) (paratype of *sugmarginalis*), West Kimberley, northern W. A., 1946; 2 ♂♂ (270 L and L in SM), Kimberley District, northern W. A., Mjöberg leg.; 4 nymphs, same data; nymph (SM), Noonkangah, northern W. A., Mjöberg leg.; nymph (SM), Derby, northern W. A., Mjöberg leg.; ♂ (SAM), Port Hedland, northern W. A., 8.VII.1953, N. B. Tindale leg.

24. *C. insularis* sp. n.

(Figs. 253-256, 267)

♂. Pronotum triangular in dorsal aspect with greatest width beyond its middle; disk with black lyrate pattern; lateral margins yellow speckled with some larger black punctures and dotted with many small reddish ones; lateral angles broadly rounded. Tegmina well developed, somewhat exceeding apex of abdomen, speckled with deep brown, however, distally becoming paler; the normally covered portion of right tegmen solidly colored. Wings as long as tegmina, infumate with brown veins. Abdomen above brown, below yellowish. First tergite as in figure 267. Genitalia shown in figures 253-254. Hind margin of supra-anal plate (Fig. 255) and hypandrium (Fig. 256) distinctly incised mesally. Legs yellowish with brown spines; lower posterior margin of hind femora with one spine. Well developed arolia present. Length of body 20 mm; length of pronotum 5 mm; width of pronotum 7.5 mm; length of tegmina 20 mm.

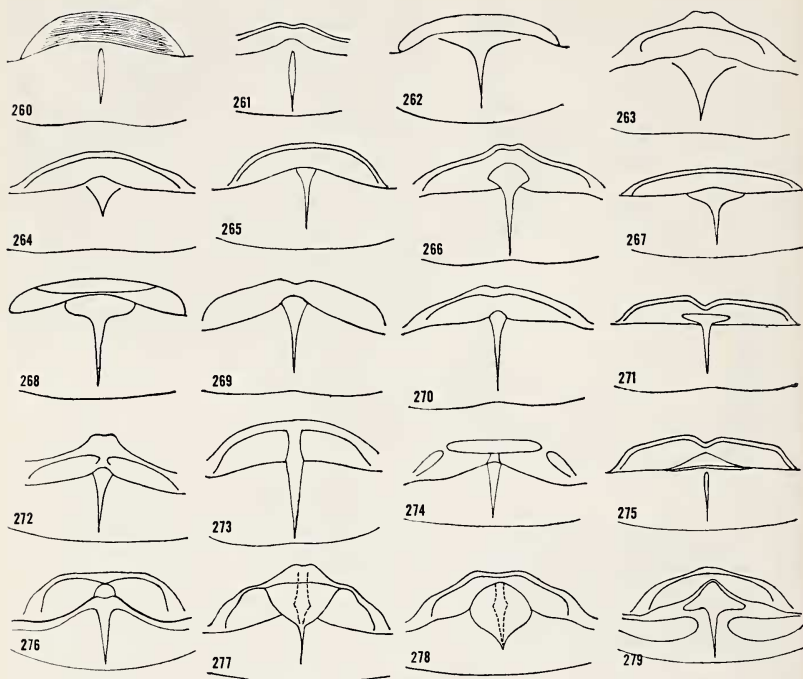
♀. Unknown.

Material examined: ♂ (107 MCZ) (holotype, herewith designated), Murray Island, Torres Strait, H. L. Clark leg.

25. *C. pernotabilis* sp. n.

(Figs. 257-259, 276, 280-282)

♂. Head yellow; interocular-ocellar area blackish, parted by a narrow pale median line into two parts. Pronotum in dorsal aspect triangular, with the greatest width at its middle; disk speckled with blackish and dotted with reddish brown, the blackish speckles forming a lyrate pattern; lateral margins lined brown inside; hind margin bearing a series of dark brown longitudinal striae. Tegmina



Figures 260-279. Schematic outlines (not drawn to scale) of ridges found on the first abdominal tergites of *Calolampra* males. 260. *C. mjoebergi*. 261. *C. paula*. 262. *C. aspera*. 263. *C. fraserensis*. 264. *C. obscura*. 265. *C. solida*. 266. *C. candidula*. 267. *C. insularis*. 268. *C. irrorata*. 269. *C. confusa*. 270. *C. queenslandica*. 271. *C. propinqua*. 272. *C. atomifera*. 273. *C. gracilis*. 274. *C. marginalis*. 275. *C. subgracilis*. 276. *C. pernotabilis*. 277. *C. signatura* (67 MCZ, holotype of *C. aliena*). 278. *C. ignota*. 279. *C. atra*. (drawings by K. Princis).

decidedly exceeding apex of abdomen, with scattered brown maculation on yellowish ground; broad dark brown humeral stripe present; the normally covered part of right tegmen solidly brown colored. Wings as long as tegmina, weakly infuscated and with brown veins. Dorsum of abdomen yellowish-brown. First tergite as in figure 276, very similar to the modification of *notabilis* (cf. fig. 199). Genitalia shown in figures 257-259. Venter of abdomen yellow with dark brown stigmatic maculae. Legs yellow with brownish spines; lower posterior margin of front femora with 1 distal and 1 additional spine, same margin of posterior femora completely unarmed. Length of body 20 (?) mm; length of pronotum 5.1 mm; width of pronotum 6.6 mm; length of tegmina 21 mm.

♀ (Fig. 280). Head generally as in male, but with an additional blackish brown macula between interocellar area and clypeus (Fig. 282). Pronotum less than twice as broad as long; disk bearing a blackish lyrate pattern and several scattered impressed punctures; lateral margins lined brown inside; hind margin straight in its middle part and provided with a series of blackish longitudinal striae; latero-caudal angles slightly produced backwards. Tegmina reduced to lateral lappets (Fig. 281); edging of their outer margins yellow. Dorsum of abdomen thickly speckled with dark brown and dotted with reddish. Supra-anal plate yellowish, sparsely dotted with reddish brown. Venter of abdomen dark to blackish brown with several included reddish maculations. Legs as in male. Length of body 16.5-17.5 mm; length of pronotum 3.8-4.5 mm; width of pronotum 7 mm; length of tegmina 3-3.5 mm.

Material examined: ♂ (1 L in SM) (holotype, herewith designated), Mt. Tambourine, Q., Mjöberg leg.; ♀ (SM) (paratype, herewith designated) and nymph (SM), Gayndah, Q.; ♀ (L) (paratype, herewith designated).

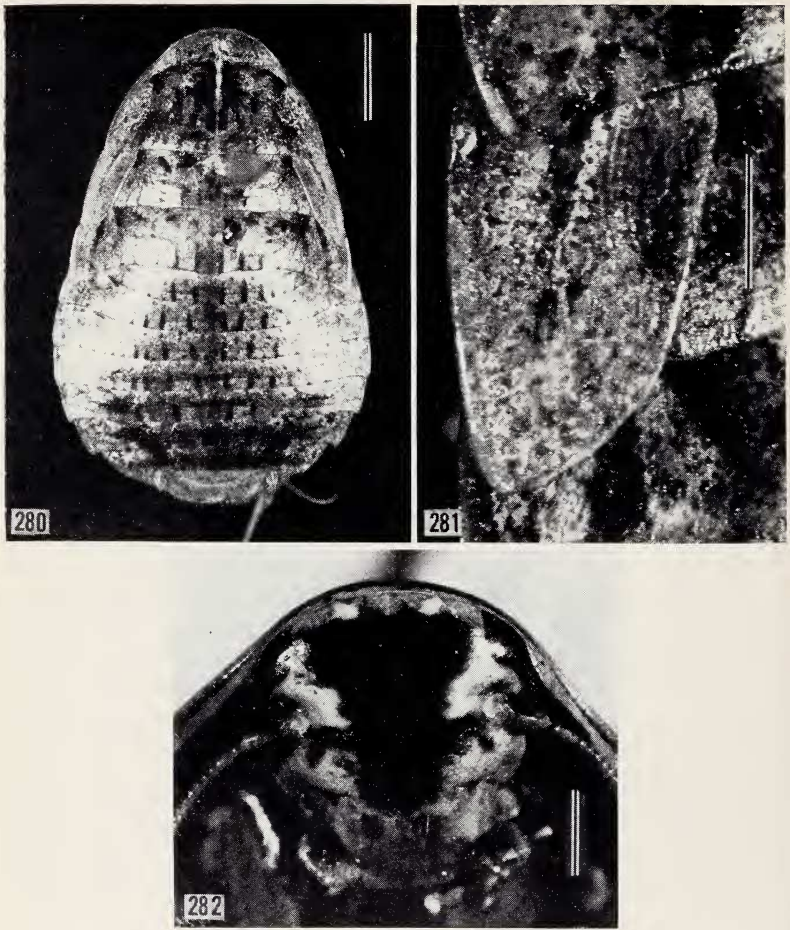
26. *C. tepperi* Kirby

Epilampra propria Tepper (nec Walker 1868), Trans. R. Soc. S. Austral. XVII, 1893, p. 64, part., only ♀ from Kangaroo Island (nec ♂ = *Calolampra atra*).

Calolampra tepperi Kirby, Ann. Mag. Nat. Hist. (7) XII, 1903, p. 275, ♀ from Kangaroo Island.

♂. Unknown.

♀. Head yellowish with three reddish transverse bands between eyes, antennae, and clypeus. The band between the eyes is broken up into 4 indistinctly limited parts. Disk of pronotum is largely clouded with dark including some pale spots and lines; the usual



Figures 280-282. *Calolampra pernotabilis*. ♀ (SM), paratype, Gayndah, Q. 280. Dorsal view. 281. Tegmen. 282. Head, frontal view. Scale: Fig. 280 = 3 mm; Figs. 281-282 = 1 mm.

lyrate pattern is vaguely indicated; lateral and anterior margins are brown, contrastingly different from the yellow color which encircles the disk; hind margin in dorsal aspect weakly convex, bearing a series of dark striae which are not raised but only indicated by their darker color. Tegminal pads lateral, their apices somewhat exceeding the weakly concave hind margin of mesonotum. Meso- and metanotum as well as abdominal tergites much the same color as disk of pronotum; their hind margins also bear similar longitudinal striae but their distal ends are generally raised and only the remaining portions are indicated by color. Hind margin of supra-anal plate arcuate and mesally weakly emarginate. Venter of abdomen brown with yellow maculations. Lower posterior margin of front femora armed with one distal and one additional spine, the same margin of hind femora completely unarmed. Length of body 19 mm; length of pronotum 5 mm; width of pronotum 8 mm; length of tegmina 4 mm.

This species may prove to be identical with Brancsik's *Calolampra depolita* (Jheft Naturw. Ver. Trens. Comit. XIX-XX, 1898, p. 57, ♀).

Material examined: ♀ (SAM) (lectotype of *tepperi*, herewith designated), Kangaroo Island, S. A., 1-6.III.1886, Tepper leg. Kirby proposed the name *Calolampra tepperi* for Tepper's *propria*, however, without lectotype designation. Shaw selected a male and a female from Tepper's material of *propria* and attached his type labels to these specimens using the name *Calolampra tepperi*. However, his action cannot be accepted as proper lectotype designation because he did not publish his designation; 2 nymphs (SAM), Kangaroo Island, 1-6.III.1886, Tepper leg.; nymph (SAM), Kangaroo Island (southern coast), 16.I.1906, O. Rall Leg.

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